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Vol 92

April 23, 1932

No. 17

In This Issue

Operating Savings from Steel CastingsPage 684

William M. Sheehan, manager, Eastern district sales, General Steel Castings Corporation, in speaking before the New England Railroad Club, analyzes the inherent qualities of cast steel, which give it versatility with respect to design as well as strength and ability to withstand corrosion.

Rail-Motors Do the Job on the M. & St. L. 689

Tells how this road has obtained substantial economies by the substitution, on all but two passenger train schedules, of gas-electric motor cars for steam power.

I. C. C. Urges Bus Regulation 697

An abstract of the report on co-ordination of motor transportation made public on April 18 by the Interstate Commerce Commission, in which it recommended a plan for motor bus regulation, but also suggested that only a beginning should be made at this time on truck regulation.

EDITORIALS

Getting Out of the Depression 677
What Lumber Inspection? 679

GENERAL ARTICLES

Making the Main Lines Dependable 680
Railways Oppose Bond Issue for Waterways 683
Operating Savings from Steel Castings, by William M. Sheehan 684
The I. C. C. and the Transportation Act 687
Freight Car Loading 688
Rail-Motors Do the Job on the M. & St. L. 689
Window Ventilators for Passenger Cars 691
Warns Against Specter of Government Operation 693

MOTOR TRANSPORT SECTION

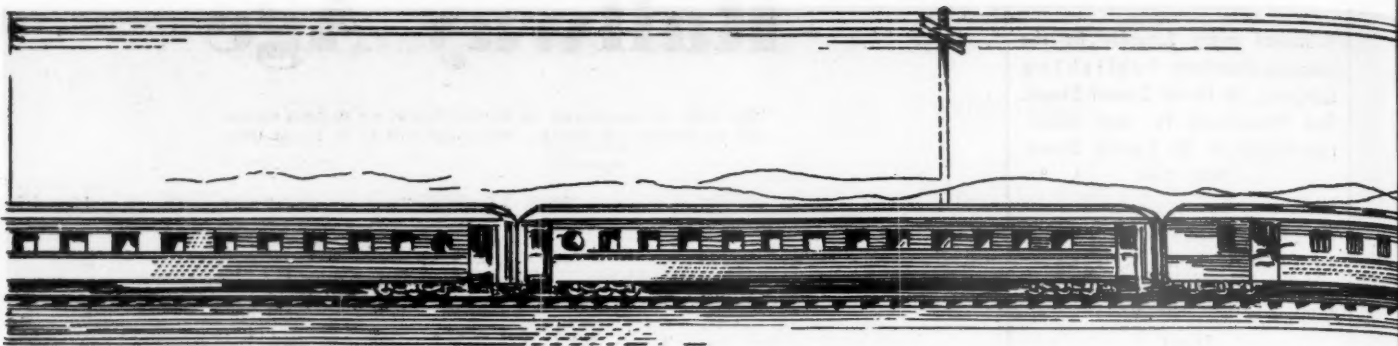
"Progress Report" on Southwestern Store-Door Service 694
I. C. C. Urges Bus Regulation 697
New 3- to 4-Ton White Truck 700

COMMUNICATIONS 701

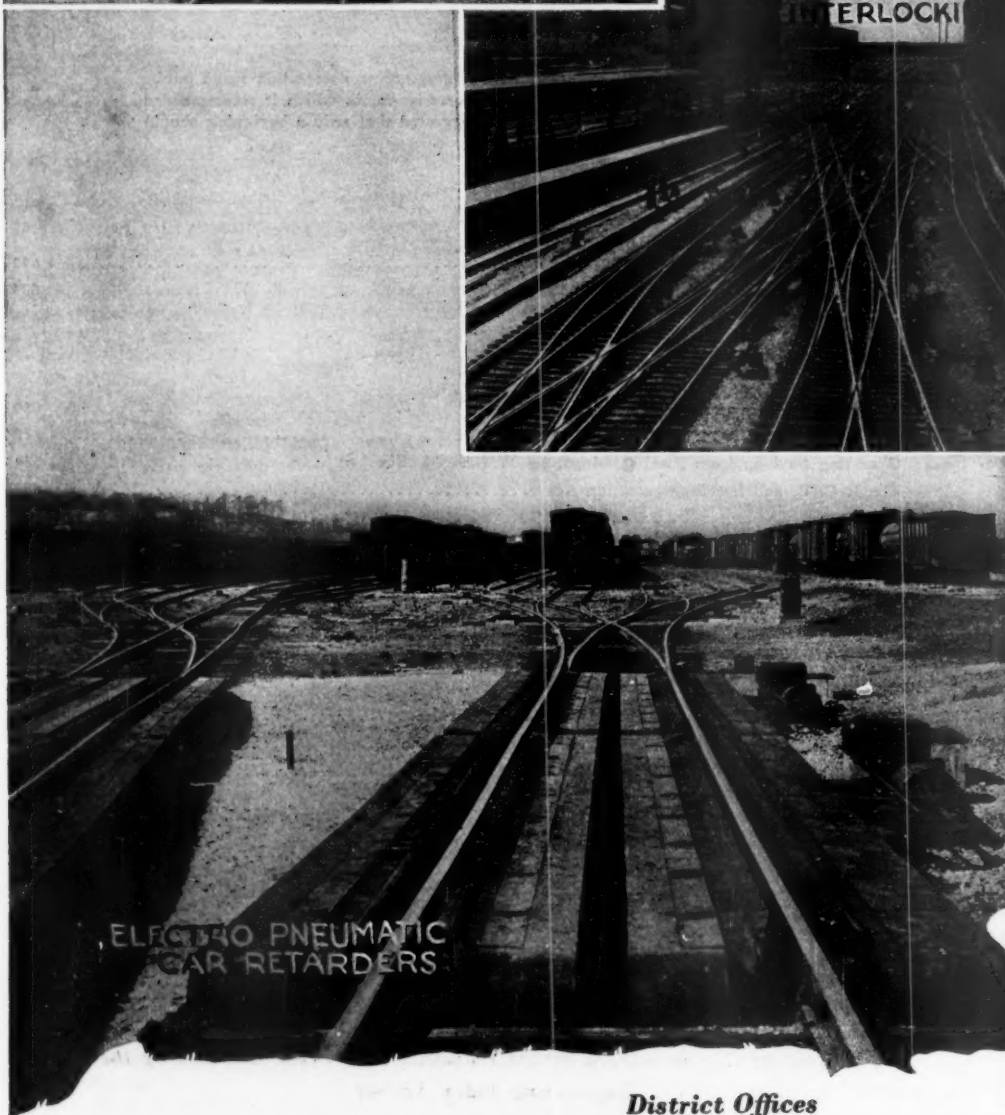
ODDS AND ENDS 701

NEWS 702

The *Railway Age* is indexed by the *Industrial Arts Index* and also by the
Engineering Index Service



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Getting Out of the Depression

The most important and difficult economic problem ever presented to the public men, the business men and the people of the United States is that of ending the present depression. This has been the most profound depression and one of the longest in all history. There is no better single measure of the total volume of production and commerce than the amount of freight handled by the railroads. The maximum decline in freight movement from the previous peak in any year during the long and disastrous depression of the nineties was 14 per cent. The greatest decline in ton mileage from the previous peak that ever occurred in any year before the present depression was 25 per cent, in 1921. In the first two months of 1932, railroad ton mileage was 22.3 per cent less than in 1931; 37.3 per cent less than in 1930; 42.3 per cent less than in 1929, and actually 18.5 per cent less than in the depression year 1921. The decline in railway freight business during the depression has been partly due to increased competition of trucks and waterways, but mainly to the fact that production and commerce have declined much more than ever before.

How to End the Depression

The depression can be ended only by the concerted efforts of public men, business men and the people generally, because its causes are so fundamental and important, and because everybody is more or less responsible for its continuance. It can be ended in only one way. This is, by reviving business in general—not merely this business or that business, but all business. It is the decline in business in general that has caused and prolonged the depression, and only an improvement in business in general will start increases in employment, in incomes and in property values. Business in general consists of production and commerce in general, and the people derive all their wages and incomes from them. Even government employees derive their salaries from taxes directly or indirectly levied upon production and commerce in general.

We have tried various schemes for stimulating this industry or that, or increasing the purchasing power of this class or that, for the purpose of reviving prosperity. None of them has worked because none of them has tended to revive business in general. We have also tried some plans for reviving business in general. They are sound, and that they have as yet

proved ineffective, or only partially effective, has been mainly due to the fact that their intended effects have been prevented by the selfish or self-righteous interference of factions or persons who have believed that the interests of their industries or classes, or the airing of their prejudices, were of more importance than the revival of business in general.

Destroying Credit by Demagogy

The Reconstruction Finance Corporation was created by the national government because there was so much hoarding of money and such a large volume of frozen assets due to the decline of market values that the banking system had become unable to extend adequate credit to industry and commerce. It was essential to the accomplishment of the corporation's purpose that the prevailing pessimism regarding the values of securities, including those of the federal, local and state governments as well as of private corporations, should be succeeded by optimism. A majority of the members of the federal House of Representatives, after helping to create this corporation, immediately proceeded to emasculate a proposed revenue bill for the purpose of demonstrating that they were determined to protect the poor and soak the rich. Vast amounts of bonds and stocks are being held by banks as collateral, and every decline in their market price curtails available credit. On March 8 the Dow-Jones average price of industrial stocks on the New York Stock Exchange was \$88.78, and the Dow-Jones average price of railroad stocks was \$38.23. There then began a decline in these prices. On March 23 the Interstate Commerce Commission joined the demagogues in Congress in destroying the available credit of the nation by issuing its now notorious statement that it had agreed "with reluctance" to a proposed loan by the Reconstruction Finance Corporation to the Missouri Pacific, and thereby creating apprehension regarding the government's future treatment of the railroads. On that date the Dow-Jones average price of railroad stocks was \$32.96. On April 13 the Dow-Jones average of industrial stocks was \$61.18, a decline of 31 per cent since March 8. On the same date the Dow-Jones average price of railroad stocks was \$20.94, a decline of 45 per cent since March 8, and of 38 per cent since March 23, when the commission broadcasted its "reluctance." This de-

cline in the average price of railroad stocks was accompanied by a decline in the price of almost every railroad bond outstanding. The demagogues of Congress and of the Interstate Commerce Commission, by their efforts to soak the rich and their airing of their self-righteous prejudices regarding railway managers and bankers, did what they could to undermine instead of improve the general credit situation and thereby to prevent an increase of employment and of everybody's income, whether rich or poor. The demagogues in Washington have recently done more to drive down the prices of securities and undermine public credit and confidence than all the "short" selling against which they inveigh that ever occurred in history.

Able assisting in the work of preventing an improvement in the credit situation and a reduction in government outlays which would help to revive general business are those, whether in or out of Congress, who are advocating a huge additional disbursement of public money to veterans of the late war. A revival of general business is what is needed to provide work for the unemployed, whether former soldiers or not. A revival of general business will be delayed, not advanced, by increasing the present huge deficit of the federal government and thereby making necessary increased taxes upon production and commerce to balance its budget.

Assistance of Business Men in Delaying Business

The ignorance or selfishness being shown by public men and others in their efforts to promote their own interests regardless of the tendency of what they say or do to delay a revival of general business, is matched by that being shown by some business interests. On every hand business men are crying out, and truly, that government expenditures, including interest on present government indebtedness, must be curtailed in order that the huge and crushing burden of taxation may be reduced. At the same time, however, that the National Automobile Association is opposing increased taxation of motor vehicles and gasoline, its right-hand bower, the American Road Builders' Association, is advocating, not reduced, but increased, expenditures upon highways.

A short time ago a delegation of business men representing the Chicago Association of Commerce and the Illinois Manufacturers' Association journeyed to Washington to tell Congress that it should not increase taxes but reduce government expenditures. This delegation included Col. Robert Isham Randolph, president of the Mississippi Valley Association, who, in a short time was back in Washington advocating the issuance of \$500,000,000 in bonds to complete the "national waterways systems." The proposed bond issue was publicly opposed by both Secretary of the Treasury Ogden Mills and Secretary of War Patrick J. Hurley, because of the adverse effects on the general credit situation it would have at the present time, but Colonel Randolph persisted in advocating it as a means of "depression relief," and contended that the expenditure of the money would result in "a con-

structive investment." For reasons so well presented by R. H. Aishton, chairman, and Doctor C. S. Duncan, economist, of the Association of Railway Executives, before a subcommittee of the Senate Committee on Commerce last week, there is no more complete and economically unjustifiable waste of public money at any time, and especially at a time such as this, than its expenditure upon rivers and canals, and yet some business men have the effrontery and disregard of economic conditions and consequences to urge increased expenditures upon worthless waterways at the same time that they are urging Congress not to increase taxes.

There is still propaganda for a federal bond issue of five billion dollars or more to raise money to spend upon public works, in general which is supported by the claim that it would increase employment and revive business, and in disregard or ignorance of the fact that the making of such a bond issue under present conditions would further seriously impair the credit of the federal government, reduce the value of every security now held by banks, and thus more than nullify all the efforts now being made to improve the general credit situation as a means of reviving business.

Constructive Influences are Prevailing

Fortunately, the forces of construction at last are becoming stronger than the forces of destruction. Sanity in both public and private affairs is beginning to return. Not only strong leaders in public and in business affairs, but the people generally, are beginning to realize that the road to prosperity is a revival of *private business in general*. It is *private business* that always must provide nine-tenths of the employment and incomes for the people if there is to be general prosperity. The principal function of government is to maintain peace, order, safety and equality of opportunity—a function which government in this country within recent years has almost abdicated, as is illustrated by our recent unprecedented records of crimes of violence and of fatal accidents. Ample means should be provided by taxation to enable government to do for the people those things which it alone can do, but public sentiment should force it to do them not only more economically but much better than it does them now.

It is not a proper function of government to run business or to provide any more employment than is necessary to enable it efficiently and economically to perform its proper functions. The intervention of government to help business by improving the general credit situation in the present crisis has been made necessary principally by its past unwarranted interferences with business and its reckless squandering of the taxes collected from private individuals and private business. Recent experience has shown what all previous experience had shown—namely, that when government tries to help business in general by repressing this kind of business or subsidizing this or that kind of business, or class of the people, it becomes simply a wrecker of business in general.

The people of the United States are now learning facts such as these more rapidly than ever before. They are learning that the true solution of their great economic problems is to restrict government to its proper functions, curtail its expenditures accordingly, and get down to brass tacks themselves and manage their own businesses and do their own work efficiently. They are learning that the governmental Santa Claus is often a robber and usually a fool, and that when he is no worse than a fool the road to hell for business will be paved with his good intentions if he is allowed to have much to do with it. Having decided to depend no longer upon the governmental Santa Claus, but to compel him to quit taxing them to give them presents that are worse than worthless, and to go to work and solve their business and economic problems for themselves, they are beginning to cheer up mightily, and to substitute courage and effort for both false optimism and false pessimism. Prosperity may not yet be "just around the corner," but at last it is coming instead of going, because, with numerous exceptions here and there, business men and the people generally are not only "getting mad," as a Chicago banker recently remarked, but also developing the wisdom and fighting spirit to restore prosperity.

What Lumber Inspection?

There has always been a great deal of honest difference of opinion regarding lumber inspection. It is generally recognized that inspection of railway lumber purchases must be provided, but railroads are not agreed on the method of accomplishing it. Some prefer to make the inspections at the shipping point, while others would have the work done at the receiving point. Shipping-point inspection is more expensive to maintain than receiving-point inspection, and it is pertinent to inquire whether it is worth enough more to offset this increased cost.

The friends of shipping-point inspection advance numerous arguments in its support. Lumber, they explain, is a product of nature. No two logs are exactly alike, and the conditions under which lumber is milled differ widely. Workable specifications do not cover all the factors and mills do not interpret specifications alike. Frequently, it is said, the bidder fails to familiarize himself with a road's requirements before contracting to supply them and proceeds with ideas at variance with the rules. Sometimes the bidder who gets the order is mistaken about the understanding of the requirements or the ability of the producer to whom he gives the order. Sometimes the supervision at the mill is faulty. Sometimes neither the producer nor its agents, having driven a sharp bargain, has any intention of conforming strictly with the requirements.

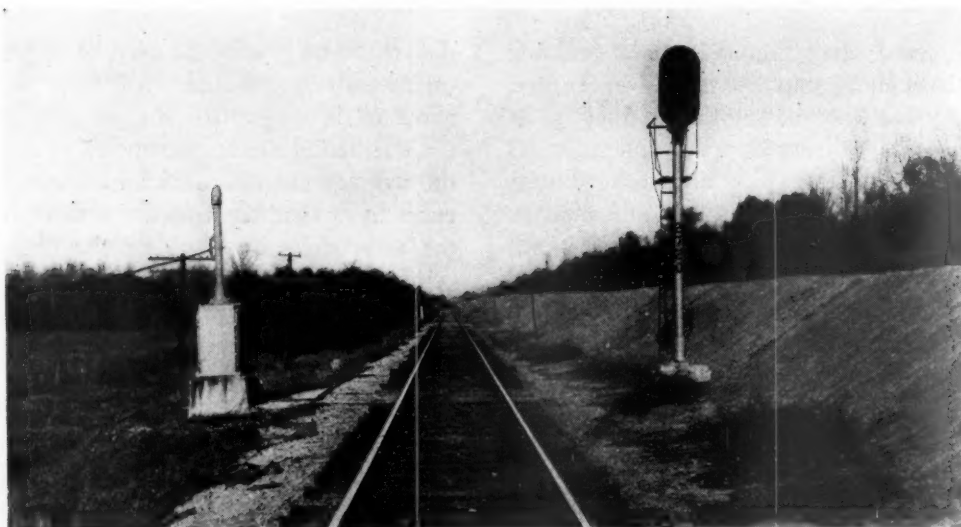
As a consequence, mill inspectors point out, orders may be filled with improperly-seasoned stock which the producer attributes to causes for which he disclaims responsibility. A high percentage may be off

dimension or grade. It may be mildewed or warped or excessively affected with other defects, rendering much of it useless for the purpose intended.

Considering the many sources of supply from which the average road secures its lumber, the wide differences in methods and facilities of different producers, the remoteness of many of the mills and the sharp competition among bidders that causes unprecedented variation in the prices quoted for the same material, these arguments for mill inspection may not be lightly dismissed. The grossly-inferior quality of lumber which has been found on occasions in the yards of some railroads who have not taken inspection seriously may often be contrasted with the purchases of roads that have maintained organizations for field inspection. In no case can a railroad which purchases any considerable quantity of lumber or which purchases ties from small producers along the right-of-way dispense with all field inspection. It would be unwise to place orders for lumber without any knowledge of the producer's responsibility, which a field inspector is able to determine during his travels.

It is doubtful, however, if railroads can longer justify maintaining organizations for the purpose of inspecting every piece of lumber before it is shipped. In the first place, friends of receiving-point inspection explain, lumber standardization has progressed to the point where it should be much easier for a railroad to prepare workable specifications covering its requirements and less excusable for producers to misinterpret specifications. This standardizing has been extended to lumber peculiar to railway use, as well as that milled for general use. There is an increasing number of producers, moreover, that are familiar with railway requirements, and grade-marking of lumber can now be secured, where the likelihood of getting satisfactory lumber for more important uses is at all in dispute. It is also a fact that the railroads are purchasing less lumber than was once the case and that, by simplification studies, the number of sizes and kinds of stock are fewer. It is also the tendency for railroads to consign their shipments of lumber to a smaller number of yards where better facilities for handling improve conditions for receiving-point inspections.

The most challenging argument in favor of receiving-point inspection, however, appears to lie in the fact that railroads have largely departed from the practice of purchasing their lumber in large quantities well in advance of requirements, and also the fact that they have been influenced to enlarge the number of firms among which their requirements are divided. The inevitable effect of these conditions is to require inspectors to divide their time among a great many more firms and to travel long distances, often to inspect a mere carload or two of lumber, and often with delays to shipments which could have been inspected equally well at the receiving point. When the cost of inspection work is considered, the conclusion cannot be avoided that roads equipped with competent yard inspection appear to have the better of the argument.



The Old Line Will Remain as Second Track

Making the Main Lines Dependable

Missouri Pacific carries out a system program of unusual magnitude to bring its tracks above extreme high water

FOR several years the Missouri Pacific has been engaged in a program of construction to insure dependable and uninterrupted service over the lines of its system during extreme floods. The project has no parallel in either magnitude or scope, since it embraces 700 miles of lines and involves an expenditure of approximately \$17,500,000, in addition to an extraordinary expenditure of \$3,000,000 for the emergent restoration of track and other structures damaged by high water.

During the disastrous flood of 1927, the Missouri Pacific, in common with other roads in the lower Mississippi Valley, not only sustained great property damage but nearly all of its lines in the valley south of St. Louis were crippled, while service was cut off for considerable periods on some of its most important lines in the flooded district. While the flood lasted, large areas and important centers of population were provided with railway service only with the greatest difficulty, frequently by detouring over circuitous routes and often over other roads, many of the principal communities being compelled to depend on the limited and irregular service, which a single line was able to provide.

Damage Was Widespread

Following the unprecedented high water of 1927, at which time the railroad also suffered considerable damage along some of the tributaries of the Mississippi outside of the principal flooded area, unusually heavy rains and severe floods occurred in 1928 and again in 1929 in the territory served by the Missouri Pacific. In the latter two years, however, the lines west of St. Louis, in Missouri, Kansas and Oklahoma were more

seriously affected by the flood conditions. All told, more than 700 miles of line were affected by the high waters of these three years, and it was necessary to expend approximately \$3,000,000 merely to repair the damage that was done to tracks, roadway, bridges, etc.

Growing out of these experiences, surveys were made and studies prepared to ascertain what improvements would be necessary to insure dependable and uninterrupted service on all of the lines of the system in similar floods in the future. These studies indicated that it would require an expenditure of \$14,000,000 to insure uninterrupted service during extreme high water on the principal main lines alone, while the cost of complete protection for all of the lines was estimated to be \$17,500,000. These figures do not contemplate any work on those lines in alluvial valleys, which depend on existing levee protection or the development of complete flood protection through state or Federal agencies.

Program Was Comprehensive

It became apparent at once that it would be impracticable to undertake a program of this magnitude as a single project, involving, as it did, so many widely separated locations and requiring so many different forms of treatment. These considerations made it desirable to spread the program over a period of several years. Accordingly the whole matter was given further study from this point of view and analyzed carefully to determine the most vital points and to develop a system of detours, which could be made when necessary, to insure continuity of service to all important centers.

As a result of these studies, a complete schedule covering the system was prepared and this was divided into two parts. The first part included the most vital points, the most important main lines and those which could be used conveniently as detours in the event of unexpected interruption to the through routes. The work was scheduled to be done in the order given, regardless of the relative magnitude of the individual projects. The second part of the schedule included such work as it was thought should be deferred until the more vital points were protected.

Plans for carrying out the work varied and were made to conform to the conditions which surrounded the individual projects. In some instances, where the lines were subjected to recurring floods, the roadbed was raised to an elevation not less than three feet above the highest known flood stage within the limits of the flood plane. At other points, where floods occur less frequently or cause less damage, the track was raised on stone ballast, the banks were rip-rapped with heavy stone and track anchors were installed. In still other locations, it was considered sufficient to readjust or extend the flood openings. There were places where the tracks were relocated; in others a new track was built at a higher elevation and the old line was retained to provide double-track operation except during high water. Sometimes a combination of two or more of these methods was employed. The extent of the individual projects varied from a few hundred feet to several miles.

The methods of doing the work were as varied as the manner in which it was done. Many of the flood openings that have been built, particularly across low or swampy ground, are ballast-deck creosoted-pile trestles. Others are concrete-pile trestles with concrete-slab ballasted decks, while still others have steel superstructures on concrete piers and abutments, and may have concrete pile trestle approaches. In some places it was sufficient to install larger or additional culverts. At a number of points, line or grade revisions were under way or contemplated and here the dependable main line work was included in the larger project. Examples of the latter were the work along the Meramec river west of St. Louis, which was described on page 711 of the *Railway Age* for April 11, 1931; and the crossings of Lyons creek, Big John creek, Turkey creek and the Smoky Hill river in Central Kansas, which will be described in a later article.

Work Was of Wide Scope

As an indication of the scope of the work (to mention only a few of the many projects), between Kansas City, Mo., and Omaha, Neb., the track was raised and provided with additional waterways at 76 different locations; between Kansas City and Pueblo, Colo., the work included 160 individual projects, exclusive of those that were made a part of larger projects, and cost \$2,000,000; while between Rich Hill, Mo., Wichita, Kan., and Geneseo, a total of 10 miles of track was raised and provided with increased waterways. At the same time, between Osawatomie, Kan., and Coffeyville, a

total of 14 miles was raised and numerous waterways were increased. Between Little Rock, Ark., and Texarkana, the roadbed was raised three feet above high water at 13 points, four of these involving several miles of line each. The largest of these projects were across the Fourche bottoms immediately south of Little Rock, across the Saline river bottoms south of Benton, at the Ouachita river near Arkadelphia and through the Terre Noire bottoms north of Gurdon. The work in this section cost approximately \$1,500,000.

Work was started at a few of the most important points immediately upon the recession of the 1927 flood, without waiting for the completion of the entire program. After the complete plan and schedule were approved, work was begun at other points, until at present the preferred schedule is practically finished. Up to date, approximately \$9,000,000 has been spent in this work, and it is estimated that \$8,500,000 will be required to do the work that is included in the deferred schedule.

Project at Newport, Ark., Was Typical

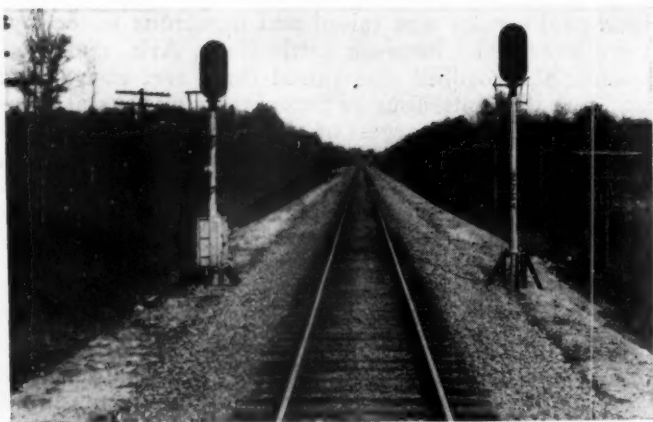
The largest individual project on the program was that at Newport, Ark. This project was typical of all of the others since it included practically every method that was employed elsewhere. The work at this point, which cost more than \$1,900,000, involved the placing of 1,000,000 cu. yd. of earth in embankments; the raising of 1.5 miles of double track and 1.6 miles of single track approximately five feet under traffic; the relocation of 1.7 miles of single track on higher ground; the construction of 9.8 miles of additional track above the flood plane or at an elevation of from 5 to 9 ft. above the old track; the retention of 9.8 miles of the old track for use as a second track; the raising of 0.5 miles of track on ballast; and the construction of more than 11,000 lin. ft. of ballast-deck creosoted-pile trestle.

North of Newport the line lies on relatively high ground, while through the town it is protected by levees which have withstood all floods. Immediately to the south, however, the road crosses the bottom lands of the White river for about 15 miles to Bradford, where it enters the low hills which lie to the west of the river.

During the flood of 1927 the water rose above the track for practically all of the distance to Bradford and flowed over it for six days, washing out a substantial part of the embankment and carrying long sections of track off of the roadbed, the maximum submergence being about nine feet. The flow during this time was estimated to have reached a volume of more



The Relocated Line South of Grand Glaize Crossed the Old Track Four Times



The Track Was Raised North of Bradford

than 500,000 sec. ft. At the beginning, the embankment headed up the water to a certain extent, but this was largely relieved as soon as the track was overtopped.

The plan to raise the tracks above any probable high water, however, introduced the question of adequate relief openings and this became the governing feature of the plan, as well as a matter of negotiation with the board of the Newport levee district. When it became clear that the two parties could not agree on the amount of opening that would be required, the matter was submitted to arbitration before a board consisting of three disinterested engineers. This board decided that 6,500 lin. ft. of opening would be necessary between Newport and Nuckles, four miles, in addition to the waterway already provided at the crossing of the river, to insure that a flood of similar magnitude would not be headed up to an elevation higher than that of 1927. No change was made in the openings as planned between Nuckles and Bradford. In order to provide this much clear opening, it was necessary to drive 6,877 lin. ft. of trestle and duplicate such structures as came within the limits of that part of the original track that was retained as second track. Altogether, including the openings south of Nuckles, a total of more than 11,000 lin. ft. of ballast-deck creosoted-pile trestle was required.

Beginning at the levee, which is at the south end of Newport yard, double track extended 1.5 miles to the bridge over the White river, which was already at an elevation well above high water. It was necessary to raise these tracks five feet, and this was done under traffic. From the south side of this bridge to Grand Glaize, 9.8 miles, a new track was built to the required elevation and parallel with the old line, but far enough away so that the new embankment slope would clear the old track. This was done for several reasons: The cost was less than for raising the existing track under traffic; it eliminated the interference with traffic which otherwise would have been unavoidable; and the old line can be utilized as a second track, except at flood time.

From Grand Glaize, the line is supported for some distance on a ridge which is underlaid with rock close to the surface. The old alignment was very crooked through this section, and for this reason it was relocated for 1.7 miles, in which distance the new alignment crosses the old one four times and contacts with it at another point. Between this relocation and the end of the work at Bradford, 1.6 miles, the track was raised from four to six feet under traffic.

For some distance north of Bradford only a small amount of local drainage crosses the tracks. The remainder of the water which must be cared for is slack

water which backs through the openings during flood stages. The embankment at the extreme south end of the work ranges in height from 12 to 20 ft. The track on this fill was raised from three to five feet on gravel and shouldered out with earth. To assure the complete drainage of water that is thus entrapped, this fill was split for about 1,000 ft., and a French drain was installed, with outlets at frequent intervals. The side slopes were made 4:1.

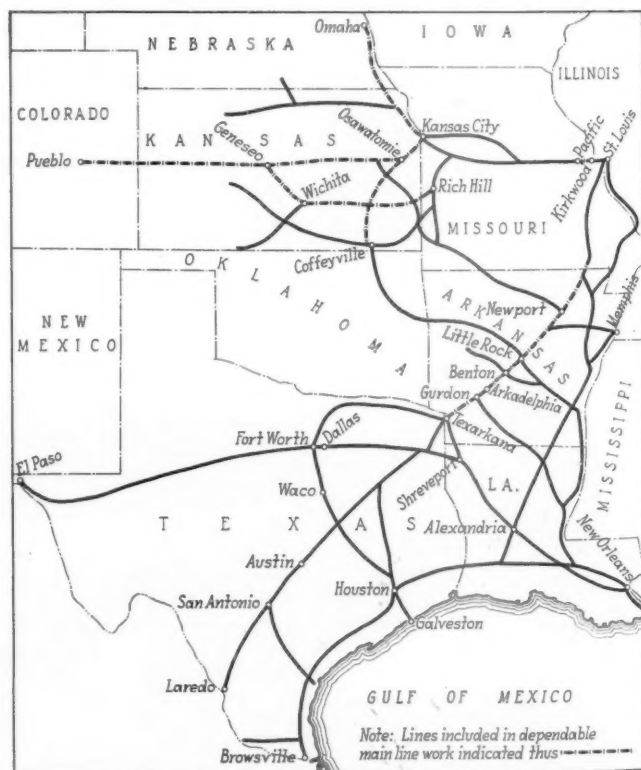
Many Culverts Were Required

Corrugated-iron pipe was installed under the low track at frequent intervals between the White river and Grand Glaize to insure quick and adequate drainage of the area between the high and low tracks. Similar culverts were installed to handle the drainage through all road crossings and at numerous openings through the embankment at points where there is a low velocity of flow during flood stages. Larger culverts are of either the single or double-barrel reinforced-concrete type.

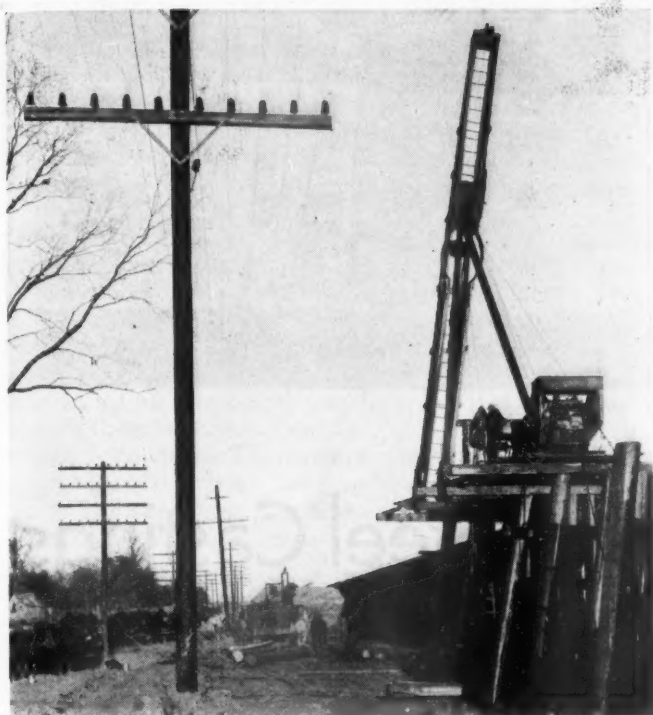
Heavy rip-rap was placed at bridge ends and elsewhere where the current might erode the embankment during high water. Since the track was being raised above any probable flood plane, it was not considered necessary to rip-rap the down-stream side of the embankment. For the same reason track anchors were not used, although they have been provided freely at many other points.

All pile trestles are ballast-deck and are constructed entirely of creosoted material. The only concrete trestle within the limits of the work is in the north approach to the bridge over the White river, where there is a 28-panel, concrete ballast-deck bridge of this type. Strictly speaking, this structure was not a part of the project, however, since it was installed during the year before the dependable main line work was started.

This project, in common with the remainder of the dependable main-line program, was planned and completed under the general direction of E. A. Hadley, chief



Missouri Pacific System—Important Main Lines Raised Above High Water



Enlarging a Trestle on the Double Track

engineer, and C. S. Sample, construction engineer. E. J. Lassiter was resident engineer in charge of the field operations. A. Guthrie & Co., Inc., St. Paul, Minn., had the general contract and did all of the grading and track work. Peppard & Fulton of St. Paul, as subcontractors, constructed the pile trestles and culverts.

Railways Oppose Bond Issue for Waterways

WASHINGTON, D. C.

PPOINTING to the large surplus of transportation facilities now in existence in this country, R. H. Aishton, chairman of the executive committee, and Dr. C. S. Duncan, economist, of the Association of Railway Executives, testified before a sub-committee of the Senate commerce committee on April 15 in opposition to the Shipstead bill proposing a \$500,000,000 bond issue for the early completion of river and harbor projects now or hereafter authorized and adopted by Congress, which they said would add to the volume of unregulated transportation in subsidized competition with the railways.

In addition to the 750,000 of idle cars, 10,000 idle locomotives, and other idle railway facilities, Dr. Duncan said there is a surplus of ships on the Great Lakes and in coastwise and intercoastal trade and there has been constructed an immense equipment for transportation on the highway which cannot today be utilized. "All in all," he said, "we have invested in transportation facilities upwards of \$60,000,000,000, a substantial part of which cannot be used. This is a consideration of importance when a proposal is made that an additional \$500,000,000 shall be expended for new transportation facilities which are not required by any public demand for transportation. These transportation facilities, like those on the highways and like the airplane, are to be subsidized by the government. Obviously,

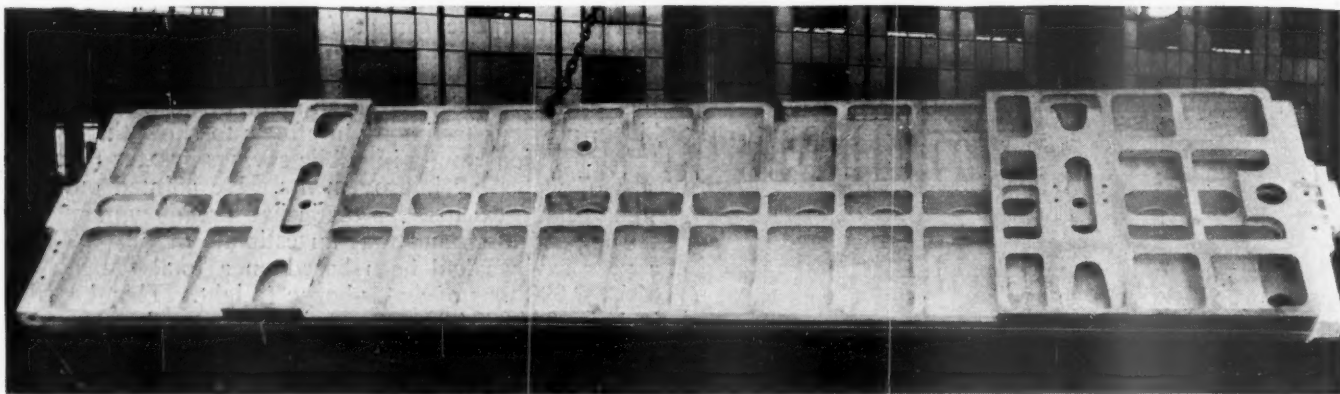
private enterprise cannot for long maintain itself in competition with government subsidized competition."

Dr. Duncan also replied to many of the mis-statements of fact which had been made by advocates of the bill in previous testimony in efforts to show that water transportation results in public savings greater than the cost of waterway improvements. He pointed out that some of the calculations made had greatly understated the expenditures and that an estimate of \$256,000,000 a year savings had been based on a total tonnage of 406,000,000 tons of water-borne freight. This, he said, includes 244,000,000 tons moving on natural waterways, such as the Great Lakes and the ocean, as distinguished from artificial or improved waterways, and the bill is not proposed for the purpose of greater expenditures on such water courses. He also pointed out that the water tonnage includes 14,675,000 of floated and rafted logs, to which river improvements with locks and dams would prove a hindrance, and 44,928,000 of sand and gravel, much of which is simply dredgings out of the beds of rivers that is hauled to shore and dumped, in addition to much other tonnage that is not commercial. As to the rate comparisons, he showed that when the "hidden costs" of water transportation are added to the freight rates paid rail transportation is actually cheaper than by water and that there are no public savings on water transportation over the river system in the sense that all the people benefit.

Mr. Aishton said the railways recognize that there has been from the beginning an established policy on the part of the government to undertake the improvement of navigable waterways and to this general policy they are not offering objection, but "if the proposed waterways are not necessary, not reasonable and not economically sound, the railroads have not only the right as taxpayers but it is their duty to protest against the undertaking." The rail carriers believe, he said, that when waterways are in operation in interstate commerce in competition with rail carriers, then it is not only fair but absolutely necessary that corresponding appropriate regulation shall be applied to such water service. It is obvious that a substantial part of interstate commerce can not be left free while the rest is regulated. With appropriate regulation applied to interstate commerce on the waterways and with adequate safeguards to the public interest, the railroads believe that they should be given an equal right with others to engage in transportation by water.

"As liberal contributors to the general tax fund, out of which the money must come for federal improvements on inland waterways, the railroads hold that the inequitable condition now existing, in which their competitors are relieved from substantial operating costs, must be recognized by government authorities," Mr. Aishton said. "They hold, further, that until recognition is given in legislative action to this fair and equitable principle of regulation, including a fair and equal opportunity for themselves to engage in water transportation everywhere, the rail carriers must maintain an attitude of opposition to continued government expenditures out of general tax funds for the extension of waterway improvements and for the extension of operations over such waterways in competition with rail carriers."

THE SUMMER EXCURSION BOOK OF THE BOSTON & MAINE, this year a pamphlet of 65 pages, contains the usual careful compendium of information about New England summer resorts, hotels, golf, farm houses and summer camps. The cover bears a reproduction in color of an oil painting by Charles Holmes, and the interior pages show numerous interesting new photographs.



Water-Bottom Frame for Norfolk & Western Tenders

Operating Savings from Steel Castings*

The inherent qualities of cast steel give it a versatility with respect to design
in addition to strength and ability to withstand corrosion

By William M. Sheehan

Manager, Eastern District Sales, General Steel Castings Corporation,
Eddystone, Pa.

THE inherent qualities of cast steel—homogeneity, unrestricted size and shape, high tensile strength, flexibility of metal distribution, resistance to corrosion and gracefulness of outline—make it the most versatile member of the ferrous group for it combines the strength-giving qualities of steel with the design flexibility and other advantages of cast iron, one of the outstanding of which is its ability to resist corrosion. While cast steel has been principally thought of as a strength-giving element, it has demonstrated again and again its value as a corrosive-resisting material and this combination has aided the railroads in effecting large economies in equipment maintenance.

The use of large steel castings has become quite general on modern locomotives, freight and passenger cars. The entire understructure of the steam locomotive and tender of today comprises integral cast-steel foundations, such as tenders, guiding and trailing trucks, locomotive beds, pilots, ash pans and one-piece tender frames. Cast steel mud rings are standard practice on locomotive boilers and smokeboxes of the same material have proved their value. Electric, gas-electric and oil-electric locomotives are nearly all built with one-piece cast-steel cab underframes, beds, driving and guiding trucks. Passenger cars for steam, electric and gas rail service have cast-steel trucks, platforms or underframe ends and anti-telescoping end frames. Freight cars embody one-piece underframes and trucks.

The large reduction in maintenance of railroad rolling equipment and the increased efficiency which has been secured during the past decade have, to a considerable extent, been due to the use of these products of the steel foundry. The experience gained during this period has clearly demonstrated that repairs to locomotives and cars, which formerly loomed so prominently in operating costs, have decreased with the modern units

equipped with integral castings. The elimination of highly stressed bolts and rivets in locomotive and car parts has been a potent factor in this accomplishment. Still further economies can be made, particularly on freight cars, as the use of one-piece cast-steel underframes is extended for the potential savings are great.

Flexibility of metal distribution, or "plasticity" as one writer has termed it, allows the integral foundation to be in the form best suited for the purpose. These cast structures are really assembled in the mold in liquid form and the metal can be placed in the right proportion exactly where it is needed for strength, thus securing weight economy and uniformity of fibre stress. This liquid assembly permits the incorporation, with ease, of the numerous necessary brackets, in many cases utilizing them to provide not only much greater strength for the detail part itself, but often to add to the value of the entire unit.

Steel Castings for Tenders

Until eight years ago, the cast-steel frame acted solely as a carriage for the separate tank. By that time, the demand for greater coal and water capacities had carried the tender length up to and beyond the limits of enginehouses and turntables. In addition, these long separate tanks weaved and buckled, causing leakage, and cracking of the sheets. The introduction of the water-bottom tender in 1924, in addition to permitting more coal and water storage, also provided a strong tender unit combining the tank and frame with the solid corrosive resistant bottom wall of the frame which forms the lower member of a deep box-type girder. During this period, its use has been extended to 43 roads and to nearly 2,000 tenders, both Vanderbilt type and rectangular. This construction has permitted a lower center of gravity and eliminated not only the bottom tank sheet maintenance, but because of its greater rigidity, most of the other tank upkeep as well.

* Abstract of paper presented at the March 8, 1932, meeting of the New England Railroad Club.

Some recent frames for water-bottom tenders being built by the Norfolk & Western had the center plates cast integrally. This eliminated the possibility of loose center plates and further lowered the bottom tank wall, in this way obtaining additional water capacity and a still lower center of gravity.

Six-wheel equalized tender trucks with minimum wheel base and clasp brakes have been used by nearly every road in this country and in Canada. The large tenders on the Boston & Maine, Central Vermont, New Haven and Boston & Albany have been so built. These are of the swing-motion type and compensate the lateral forces encountered at speeds. These forces are so great that unless they are reduced or neutralized by lateral compensation, the track, wheels, truck and tender must absorb them with inevitable breakage of parts or derailments following. The same general principles of construction which have been so successfully applied on passenger-car trucks are also embodied in these tender trucks.

Steel Castings for Locomotives

The steam-locomotive bed was first made with separate cylinders as railroad men feared that a side swipe or the presence of water in the cylinders would cause a failure that would be difficult to repair. Experiments early determined that if a portion of the cylinder barrel were broken out in this manner, a piece could be cast to fit and welded in place. It is interesting to observe, however, after six years of service, that although a number of engines equipped with beds have been in serious accidents, no cylinder barrel wall has shown any weakness.

The integral back cylinder head eliminated a present source of high maintenance expense. The usual practice with separate heads at a shopping is to remove the attaching studs, regrind the joint between the cylinder and the head, apply new studs and re-assemble. All of this is avoided with integral heads and at the same time, a better and stronger connection is permitted between the main bed members and the back cylinder walls.

Separate main air reservoirs are usually located on the sides of the barrel of the boiler under the running boards. Substantial brackets are essential to reduce vibration which loosens the pipe connections. Many roads follow the plan of rotating the separate reservoirs a 90-deg. turn at regular intervals to slow up the corrosive action on the thin walls of the drum. Their integral embodiment in the bed permits them to have a wall thickness three to four times that of the separate drum and at the same time acts as the backbone of the bed adding strength to it and taking the place of the rectangular backbone. Washout and drain plugs permit easy cleaning and the siliceous skin of the casting resists the corrosive action of the condensate and viscous masses which collect therein. The hydrostatic and hammer tests prescribed by the federal inspection rules can be complied with and integral brackets for the radiating pipes are formed on the top.

The removal of the reservoirs from beneath the running boards improves the vision from the cab and also eliminates the ever-present danger of explosion of the thin walled drums which, on a number of occasions, has resulted seriously to persons in the vicinity. Officers of roads using the integral reservoir state that considerable maintenance savings accrue at shoppings. The danger of puncturing when a rod or motion work part breaks in service is also eliminated. An accident occurred on one of the mountain roads some time ago, in which a broken rod on a locomotive running light down

hill, punctured the separate drum under the running board and thus rendered both the air brake and power reverse gear inoperative, causing a derailment.

The integral air-compressor brackets at the front end of the bed have a number of advantages. The compressors can here be securely fastened with through bolts, thus getting away from the bracket studs in the boiler which are a constant source of leaks when compressors are attached to the sides of the boiler. The cab vision is improved, a better running-board line is obtained and in many cases, a better weight distribution is secured by their location forward. Their accessibility from the ground also makes pump maintenance easier.

The demonstrated advantages of the roller-bearing driving box for locomotives will, it is believed, make its use on existing modern motive power most desirable. A wider box opening will be required than with the ordinary axle box and thus necessitate a new frame structure.

Reduction in wind resistance of locomotives is a live subject and will receive increasing attention from railroad-operating men and locomotive builders. The cast-steel smoke box lends itself readily to stream lining as it easily permits the coning of the front end of the smoke box. The front door need be no larger than enough to remove and apply the superheater units and the tapering can begin just beyond the outside door line. The headlight can be placed in the door and the contour of the forward portion of the smoke stack may be reshaped.

Steel Castings for Passenger Trains

No phase of railroad operation is receiving greater attention than that of insuring safety, particularly of passengers. One of the worst forms of accident which can happen to a passenger train is a telescopic collision in which one car climbs over the platform of the adjacent car and, due to the impact, shears the end posts and roof members and penetrates the body of the car. The results in a passenger coach are horrible to contemplate and while, thanks to efforts for efficient and safe operation, these accidents are not common, still, unfortunately, they occur all too frequently.

The desire to prevent such catastrophes led to the development of the anti-telescoping cast-steel passenger-car end construction. In this, the end frame of the car is a rugged unit with a substantial connection to the platform, and with upright door and corner posts joining the top and bottom sills. This strong top sill is attached to the roof and side members. The upright posts will withstand a blow of one and one half million pounds struck 18 in. above the floor without fracturing and the tensile value of the top sill will prevent the roof being rent asunder.

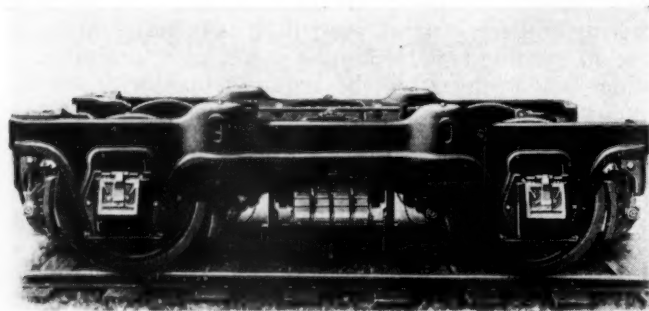
Wide door express cars for the shipment of motor cars, horses, theatrical equipment and other like commodities permit a very limited available cross section for the door corner posts if the maximum door opening is to be secured. A modification of the anti-telescoping cast-steel end has been developed for this type of car. Closely fitted steel doors that remain tight are applied in hooded machined door openings that prevent water or moisture seepage. The corner posts of the one-piece frame are of box section and provide maximum strength in every direction.

Cast-steel equalized swing-motion trucks, both four and six wheel, have long been the standard on passenger cars not only in the United States, Canada and Mexico but in Europe as well. They have been continually improved in order to effect maintenance economies. The

four-wheel truck used on the Boston & Maine baggage cars and the New Haven coaches have straight equalizers which put the brake shoes in the clear, integral pedestals with renewable hard-steel liners and all pin holes are protected with case-hardened bushings. The six-wheel trucks under the New Haven diners have the same salient design features and in addition, inside side bearings are cast integral with the truck center bolster.

Steel Castings for Freight Cars

Present day operation of freight cars involving longer trains, higher speeds and quick movement over humps



Four-Wheel Truck Applied to Passenger Cars on the Boston & Maine and the New Haven

in classification yards makes stronger freight cars imperative. They must be, in effect, shock proof for the constant punishment is most severe. As they are off the home line a large portion of the time, adequate attention is not obtainable.

The success which has attended the use of truck, side frames and bolsters, and other integral cast-steel structures on railroad equipment has caused much thought to be given to cast-steel underframes for freight cars. It can be definitely stated that the cast-steel underframe can be made just as light as service requirements will permit for the steel-foundry art has progressed to a point where large castings of relatively thin sections are common. The improvements which have been made in manufacturing practices promise that the integral underframe with the advantages of quantity production can be supplied at a price that will justify its use. Its merits are numerous and readily apparent to everyone responsible for freight-car maintenance.

Its unitary form permits the embodiment of the sills, bolsters, crossties, draft housings, striking plates, center plates, brake attachments and other fixed appurtenances. Loose rivets, always a source of high upkeep expense and forerunners of disintegration, are eliminated. The protective siliceous skin will prevent corrosive deterioration as it has proved its ability to do on cast-steel tender frames.

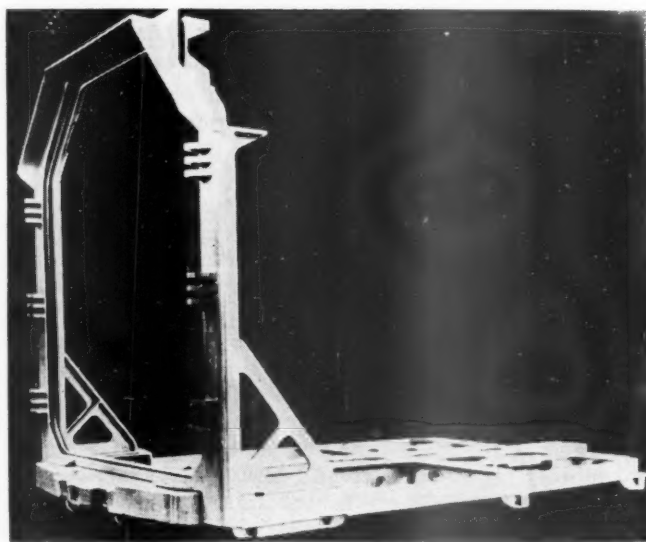
Hopper-car foundations on coal cars are badly punished in two ways. Not only do the draft sills and bolsters have to withstand the heavy end loads resulting from run-ins and bumping in classification yards, but the entire frame structure between the end slope sheets is subject to severe corrosive action. The numerous joints, bends and seams in the hopper zone provide pockets and crevices where the concentrated sulphuric acid resulting from the moisture and coal, can lodge and rapidly eat away the rolled-steel plates. An examination of hopper cars on any repair track bears out this statement. The cast unit, with its seamless hopper walls and acid resistant surface, should function indefinitely.

Nearly five hundred hopper cars with cast steel underframes have been in service for several years on the

railroads handling iron ore in the Lake Superior region. These cars, which are of 75 tons' capacity, are self-clearing in less than one minute. They have one large central hopper and, as no center sills are permitted, the vertical and longitudinal forces must be carried through the side sills and transversely to the center plate and draft sills.

A striking example of the strength of the cast-steel underframe was afforded in an accident on one of these roads about three years ago. A train of 165 loaded 70-ton ore cars, all nearly new and of the same age, with about half of them equipped with cast-steel underframes, was descending a slight grade and the train extended through a reverse curve. Conditions necessitated an emergency application of the brakes and the train, due to its position, buckled. The cast-steel underframed cars were distributed throughout the train, no attempt having been made to segregate them. No damage was done to these cars with integral foundations other than a few broken coupler shanks, although the balance of the train suffered severely. It is interesting to relate, that there were no broken couplers except on these cars, with built-up underframes, clearly demonstrating that the cast underframe was stronger than the couplers while the other frames were not.

The cast-steel tank car bottom which was applied to 100 large capacity tank cars for the Santa Fe about two years ago, forms the lower segment of the tank and contains within itself the buffing and pulling column. This substantially increases the available tank diameter without increasing the distance from the rail to the top of the tank and permits a much greater volume in the given length and a lower center of gravity. The pro-



Cast-Steel End-Frame Structure for Chicago & North Western Express Cars

TECTIVE surface of the casting is especially advantageous for the transportation of high sulphur-content oils as well as many other liquids.

A large eastern road has recently built an automobile car with wide end doors to better serve the motor car manufacturers. The door frame and the end of the car, including the end sill, have been made in a single steel casting of which the hinge lugs are an integral part.

Are the Railroads a Moribund Industry?

The industrial leadership of our people is unquestioned. Despite wages and working conditions which

permit the highest standard of living in the world for the worker in industry, the costs in all lines of manufacture are remarkably low even when compared with those countries where no such social standards prevail. And one of the principal reasons for this is the constant search we are making for more efficient machines and equipment. Without this progressive spirit, we would not long retain our industrial position. Our leaders in mill, mine and factory have not hesitated to discard and retire inefficient and obsolete machinery and tools. Those who have failed to do this have fallen behind and have had to give up the struggle.

In various parts of our country, even here in New England, many examples can be cited of industries in which these sections firmly held the supremacy and in which, due to not following a policy of progressive modernization, the leadership for a while seemed to pass to other sections. Could we not find analogies in our railroad situation? Statistics compiled at the end of 1930, showed that only 18.3 per cent of the locomotives on our Class I Railroads were less than 10 years old, 33.1 per cent, 10 to 20 years old and 48.6 per cent, over 20 years of age. Surely, when we review the progress in locomotive development during the last 10 years, we cannot by any economic rule, justify the continued operation of this last 48.6 per cent, which, in numbers, amounted to 27,459 on December 31, 1930. The advances in steam-locomotive engineering during the last 10 years has been so rapid that only those locomotives built during this period can be really called modern.

A general manager of one of our most progressive eastern roads recently said that with the mileage now being gotten out of their main-line freight and passenger locomotives and with the improvements which are being continually made in locomotive design and construction, he was convinced that they would have to be retired within 12 to 15 years following their purchase as they would then be obsolete for main-line service and too heavy for secondary or branch lines. The practice which has been followed of moving back locomotives which are inefficient and obsolete, is contrary to every principle that has been proved economically correct and sound in other industries.

A superintendent of motive power, a short time ago, stated that the most important motive-power need was for a light, modern and efficient locomotive for secondary and branch lines. Many of these lines have light rail and bridges which prohibit transferring larger main-line power without the expenditure of a great deal of money and this is not justified on most of these lines. Why not provide a specially designed high-speed light, efficient locomotive that can be operated over existing track structures and that would be suitable for handling either passenger or freight trains. Even though the amount of business or tonnage to be handled may be limited, there would be gained the benefit of a saving in fuel, the mileage between shoppings would be doubled or perhaps tripled, fewer units would be required, the locomotive availability much greater and the maintenance saving effected tremendous.

In commenting on the railroad situation recently, the Interstate Commerce Commission said "The railroads provide not only the backbone of our transportation system, but most of the other bones as well." This statement is as sound as it is true. Those of us engaged in this vital industry sometimes are prone to forget the full sense of the necessitous importance because, like the prophet, we are too close to the mountain to get a true perspective. The buses and trucks are not going to take over the functions of the railroads because our highways

are becoming pretty well travel-saturated now. According to some recent statistics, these two agencies are handling less than three per cent of the traffic even in this period of reduced business so any appreciable increase in the number of commercial units would seriously jeopardize the safety of operation of private vehicles. Only a little of our commercial transportation could be handled by the motor vehicles economically and that part should, and will, undoubtedly, soon be taken over by the railroads and coordinated with their rail service. There is no doubt that the competition of motor transport has been a large factor in raising the speed of freight trains which now approximates that of passenger trains. The economical movement of such traffic requires new types of power having larger driving wheels and greater boiler capacities than were formerly needed. The railroads must provide these as there are practically no freight locomotives more than 10 years old qualified to handle high-speed service effectively.

A prominent economic writer in Barrons several months ago referred to the railroads as a moribund industry. Such a harsh criticism might have been based on the gradual drying up of equipment replacement during the past 25 years. In 1907, the locomotives less than 10 years old comprised 61 per cent of the total number in service. In 1914, this had dropped to 50 per cent, in 1921 to 26 per cent, in 1928 to 22 per cent, in 1930 to 18.3 per cent and if we project the replacement into the future at the rate of the past five years, we will have in 1935, only 13 per cent of our locomotives less than 10 years old. Such a course, if allowed to continue, is certainly suicidal for no industry can survive which permits such an obsolescence rate. It is vitally necessary that this trend be reversed and that the railroads, by a progressive and rapid modernization of rolling stock prove this moribund prediction to be unjustified. The nation must have continually better transportation facilities and the railroads can and will provide it.

The I. C. C. and the Transportation Act

AN investigation as to whether the Interstate Commerce Commission has been functioning in accordance with the purpose of the transportation act of 1920, which intended to give assurance to investors of a fair return on the value of railway property, is suggested in a letter addressed by Philip J. Roosevelt, of New York, to Senators Wagner and Copeland, which was inserted into the "Congressional Record" on April 15 by Senator Copeland. Mr. Roosevelt particularly raises the point that the commission has continued to authorize the issuance of railway bonds, at prescribed prices, in spite of its knowledge that the roads were not receiving a fair return. The letter follows:

A committee of the Senate, headed by Senator Johnson (California), recently investigated the flotation of foreign bonds in the United States. This committee brought out the fact that no governmental agency in this field has protected American investors. Is it not pretty nearly time to investigate a governmental agency, which costs taxpayers about \$9,000,000 a year, to find out whether or not it has been swindling investors and whether the \$9,000,000 is worth spending. The agency referred to is an agency of the Congress—the Interstate Commerce Commission.

Is it true that the Interstate Commerce Commission is supposed to function under the transportation act?

Is it true that the intention of the Congress in passing this

act is correctly set forth by the Senate committee's report on the bill which said that the purpose of passing it was:

"First. By prescribing a basis of return upon the value of the railway property, to give such assurance to investors as will incline them to look with favor upon railway securities; that is to say, by making a moderate return reasonably certain to establish credit for the carriers."

Is it true that since the passage of the act neither the railways as a whole nor the railways in any region have earned the prescribed "fair return?"

Is it true that the Interstate Commerce Commission has, nevertheless, and in spite of its knowledge of this failure to earn, repeatedly authorized the sale to investors at prices close to par of hundreds of millions of bonds now selling at from 15 to 60 per cent of the price prescribed by the commission?

Is it true that the commission, in spite of known insufficient and unsatisfactory earnings, repeatedly increased the price which investors were compelled to pay for railroad bonds to prices higher than the bankers thought were justified?

Is it true that now the commission in approving loans by the Reconstruction Finance Corporation demands double and more security than it felt was fair that investors should receive?

If any or all of these questions merit an affirmative answer does not the question arise as to what the Congress is getting in return for the \$9,000,000 a year it is spending on the commission?

If the transportation act has failed "to give such assurance to investors as will incline them to look with favor upon railway securities," is it not time to do something about it?

Furthermore, is it true that this swindle is striking at one of the main supporting beams of the entire financial structure? Is it true that recently 49 per cent of all the bond and stock investments by life insurance companies and 44 per cent of all bond investments of the savings banks in your State—New York—were in railroad bonds?

Were these bonds bought upon faith in the assurances of the Congress as expressed in the transportation act?

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended April 9 amounted to 544,806 cars, 155 cars less than that for the preceding week. This was a decrease of 192,466 cars as compared with the corresponding week of last year and of 366,510 cars as compared with 1930. Loading of merchandise and miscellaneous freight increased as compared with the week before but this was offset by the reduction in coal loading. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, April 9, 1932

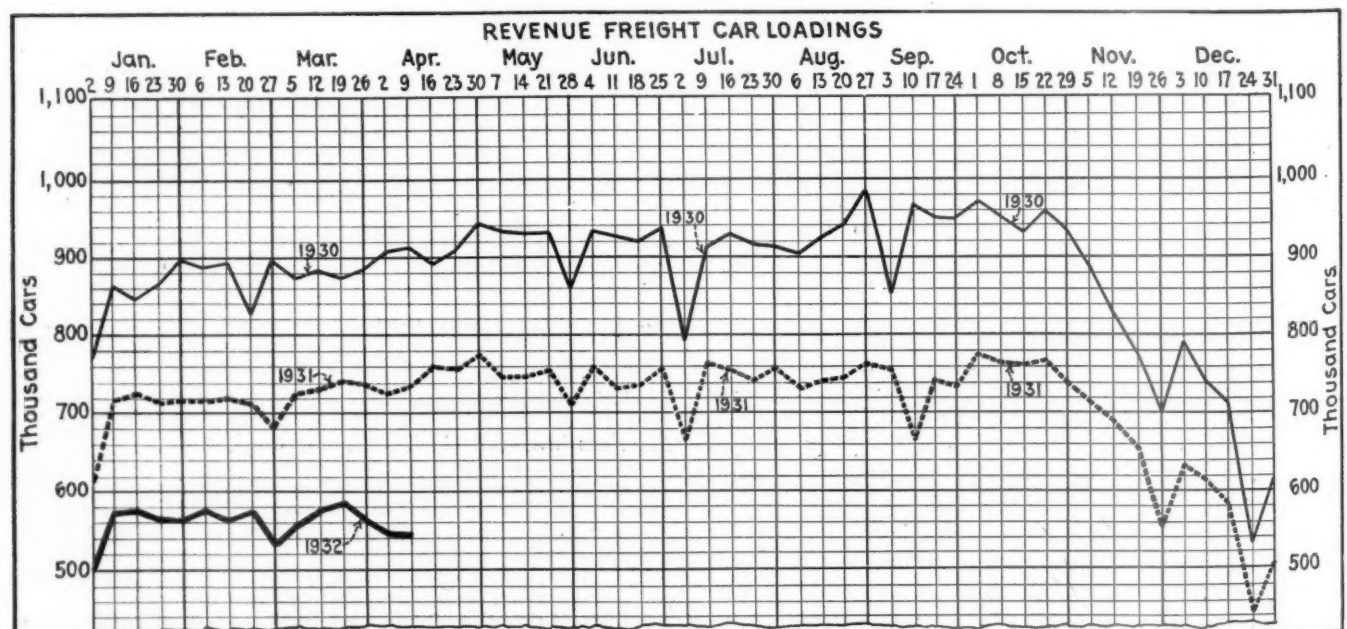
Districts	1932	1931	1930
Eastern	130,622	170,742	206,004
Allegheny	111,132	152,325	187,506
Pocahontas	32,434	40,533	52,868
Southern	84,534	119,341	148,149
Northwestern	61,371	84,054	107,665
Central Western	80,265	105,300	130,975
Southwestern	44,448	64,977	78,149
Total Western Districts	186,084	254,331	316,789
Total All Roads	544,806	737,272	911,316
Commodities			
Grain and Grain Products	29,026	36,924	39,953
Live Stock	17,173	20,420	23,252
Coal	88,200	116,142	132,598
Coke	4,059	7,250	10,193
Forest Products	19,577	32,574	57,357
Ore	2,671	6,636	11,479
Mdse. L.C.L.	187,687	223,631	252,631
Miscellaneous	196,413	293,685	383,853
April 9	544,806	737,272	911,316
April 2	544,961	727,852	908,059
March 26	561,118	738,880	885,324
March 19	584,634	741,253	875,385
March 12	575,481	733,580	881,308
Cumulative total, 14 weeks	7,885,639	10,109,382	12,312,804

The freight car surplus for the last half of March averaged 704,747 cars, a decrease of 1,126 cars as compared with the first half of the month. The total included 365,209 box cars, 264,606 coal cars, 32,123 stock cars, and 14,387 refrigerator cars.

Car Loading in Canada

Car Loadings for the week ended April 9 amounted to 41,432 cars, which was an increase over the previous week of only 41 cars, but in past years there has been a temporary slackening during the fourteenth to seventeenth week and, adjusting for this seasonal variation, the index number rose from 70.77 for the thirteenth week to 72.39 for last week. Total merchandise loading increased from 14,262 cars to 14,434 cars, or by 172, but this was less than the normal seasonal increase and the index number dropped from 84.21 for the previous week to 83.90 which was the lowest for this year.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
April 9, 1932	41,432	21,586
April 2, 1932	41,391	23,152
March 26, 1932	38,667	23,847
April 4, 1931	45,322	29,238
Cumulative Totals for Canada		
April 9, 1932	575,048	303,942
April 4, 1931	653,158	391,518
April 5, 1930	798,540	516,489



One of the 300-hp. Rail Cars Placed in Service on January 1, 1930



Rail-Motors Do the Job on the M. & St. L.

Replace steam power on all but two passenger train schedules—Substantial economies have resulted

THE steam-powered passenger train is a rarity on the Minneapolis & St. Louis. This 1,627-mile railroad now operates only two passenger trains by steam power, these being through trains with sleeping-cars, running in conjunction with the Wabash between St. Paul, Minn., and St. Louis, Mo. Locomotives also handle several mixed trains. Twenty local passenger train schedules, however, are handled by gas-electric rail motor cars, most of them hauling one or more trailer coaches.

The Minneapolis & St. Louis embarked upon its program of substituting gas-electric for steam power more than two years ago. The specific objective of the substitution was to reduce the cost of operation. There had been a marked falling-off of passenger business, owing to the improvement of the highways in the territory served by the road, with the resultant greater use of private automobiles and increased patronage of competitive motor bus lines. The management realized that the revenue derived from the handling of mail and express had to be depended upon to support such passenger service as it was necessary to continue to operate.

Eleven Motors Purchased

The first purchase of gas-electric motors was made late in 1929. This order provided for three 75-ft., 300-hp., three-part cars, including a 15-ft. mail compartment, a 22-ft. baggage compartment and a 32-seat passenger compartment. These were placed in service on January 1, 1930. They proved so satisfactory that in November, 1930, four additional motors were purchased. These were 400-hp. gas-electric cars, each with a 30-ft. mail compartment and a 30-ft. baggage compartment. The latest order was placed in August, 1931, when four more motors were acquired. These included two 400-hp. gas-electric cars, each with a 15-ft. mail compartment and a 45-ft. baggage compartment; one additional 300-hp., three-part car, like those included in the original order; and one additional 400-hp. two-part car, like those installed in November, 1930.

At the present time these 11 motors are handling 20 passenger train schedules, of which 16 are daily-except-Sunday and 4 are daily. The total monthly mileage of the 11 motors is 108,979, an average per motor of 9,907. The installation of these gas-electric motors displaced 25 steam locomotives, mostly of small capacity. These facts indicate the larger mileage being obtained from the gas-electric motors. Only a few adjustments in the steam train schedules previously in effect were necessary to accomplish the purpose of obtaining larger mileage from the gas-electric equipment.

Marked Saving in Expenses

There is a wide margin between the cost of operating the gas-electric motors and that of the steam engines. The operating cost of the steam locomotives including wages, fuel, supplies and repairs, was \$0.6628 per mile, while the corresponding figure for the gas-electric equipment is \$0.3056 per mile. In the ten months from Dec. 1, 1930, to Oct. 1 1931, the aggregate savings in out-of-pocket expenses were \$279,179.19, or at the rate of more than \$300,000 per year. The newness of most of the equipment, of course, has tended somewhat to hold down the gas-electric operating cost. Three of the motors, those installed on January 1, 1930, were given their first shopping in August, 1931, and the balance are not yet in need of shopping. The cost of shopping the three motors, however, is included in the average cost of \$0.3056 per mile. The crews of the rail motor cars consist of an engineman, a conductor and a brakeman-baggage man, without the fireman necessary on steam trains.

In addition to the out-of-pocket savings with respect to wages, fuel, supplies and maintenance, accomplished by the use of gas-electric motive power instead of steam, several other economies have resulted. The cost of maintaining the gas-electric motors is much less than that of steam locomotives. The cost of fuel for the gas-electric is likewise less. There has also been a reduction in the cost of handling cinders. Where there



This 400-hp. Car Pulls One or More Trailer Coaches Regularly between St. Paul and Watertown

is a joint operation, the gas-electric motors count as one car, while steam locomotives ordinarily are counted as two cars. There is also an intangible saving in track maintenance, especially on light traffic lines, because of the fact that gas-electric motors are much easier on track than steam locomotives. There has likewise been an improvement in service due to the substitution of the gas-electric equipment. The steam train schedules took into consideration the time consumed in taking on coal and water at various points. The gas-electric motors, requiring no such service, make it possible to shorten the schedules to some extent.

The gas-electric cars operated by the Minneapolis & St. Louis are not idle much of the time. They have to keep moving to maintain their tight schedules. Motor No. 1, a three-part car accommodating mail, baggage and passengers, makes one round trip with Trains No. 19 and 20 daily except Sunday between Oskaloosa, Iowa, and Peoria, Ill., a distance of 189 miles. This car leaves Oskaloosa at 6:35 a.m., arrives at Peoria at 12:55 p.m., leaves Peoria at 3:00 p.m. and arrives at Oskaloosa at 9:30 p.m. Motor No. 2 handles Trains No. 28 and 29 between Winthrop, Minn., and Storm Lake, Iowa, a distance of 154 miles. Daily except Sunday, this car leaves Storm Lake at 6:15 a.m., arrives at Winthrop at 11:55 a.m., leaves Winthrop at 12:30 p.m. and gets back to Storm Lake at 6:05 p.m. Motor No. 3 handles the schedules of Trains No. 9 and 10 between Oskaloosa, Iowa, and Mason City, a distance of 145 miles. This car leaves Mason City daily except Sunday at 7:15 a.m., arrives at Oskaloosa at 12:15 p.m., leaves that point at 3:35 p.m. and returns to Mason City at 9:05 p.m. Motor No. 4 has the lightest task. It leaves New Ulm with Train No. 11 at 5:00 a.m. daily except Sunday and arrives at Minneapolis at 8:03 a.m. The distance between these points is 87 miles. Returning, it leaves Minneapolis at 5:45 p.m. with Train No. 12 and reaches New Ulm at 8:55 p.m.

Motor No. 25, one of the 400-hp., two-part cars, handles that part of the schedule of Trains No. 1 and 2 between Albia, Iowa, and Albert Lea, Minn., a distance of 206 miles. This car leaves Albia at 5:45 a.m. daily except Sunday and arrives at Albert Lea at 12:25 p.m. Returning, it leaves Albert Lea at 1:20 p.m. and arrives at Albia at 8:25 p.m.

Motors No. 26, 27, 28 and 29 fill six schedules in and out of Des Moines on two lines, one to Spencer, Iowa, a distance of 165 miles, and the other to St. Paul,

a distance of 310 miles. Two of these trains between Des Moines and St. Paul are operated daily, while the other four, Trains No. 1 and 2 between St. Paul and Des Moines and Trains No. 21 and 22 between Des Moines and Spencer, are operated daily except Sunday. These four motors are operated on a first-in, first-out basis at Des Moines, and follow a definite circuit. Thus the motor leaving Spencer at 6:00 a.m. on No. 22 arrives at Des Moines at 12:05 p.m. It then leaves Des Moines on No. 3 at 7:50 p.m. for St. Paul, arriving there at 6:45 a.m. The car leaves St. Paul on No. 2 at 8:40 a.m. and arrives at Des Moines at 7:15 p.m. for an overnight layover. The following morning it leaves for St. Paul again on No. 1 at 7:30 a.m. and arrives there at 6:35 p.m. At 8:15 p.m. the same day it leaves on No. 4. and arrives at Des Moines at 7:50 a.m. From Des Moines it leaves on No. 21 at 12:55 p.m. for Spencer, arriving there at 7:20 p.m. for an overnight layover before starting its circuit again. In other words, each of the four motors in this pool is called upon to make one round trip between Des Moines and Spencer and two round trips between Des Moines and St. Paul, an aggregate distance of 1,570 miles, every four days with one night layover at Des Moines and another night layover at Spencer.

Motors No. 30 and 31 operate Trains No. 13, 14, 15 and 16 between St. Paul, Minn., and Watertown, S. D., a distance of 234 miles. One motor leaves Watertown at 7:30 a.m. and arrives at St. Paul at 3:40 p.m. with Train No. 14, and returns with Train No. 15 at 9:00 p.m., arriving at Watertown at 5:45 a.m. The other leaves St. Paul with No. 13 at 9:10 a.m. and arrives at Watertown at 5:30 p.m., leaving there with No. 16 at 10:55 p.m. and arriving at St. Paul at 7:00 a.m. In other words, these schedules are practically continuous, but layovers of approximately half a day a week are provided since Trains No. 13 and 14 are operated daily except Sunday, while Trains No. 15 and 16 are daily trains.

The motors are maintained at five points: Des Moines, Watertown, Albia, Oskaloosa and Minneapolis. Refueling stations are located at Albert Lea, Winthrop, Oskaloosa and Des Moines. Motors No. 26, 27, 28 and 29 are maintained at Des Moines. The filling station at Albert Lea serves Motor No. 25 operating between Albert Lea and Albia and the motors operating between Des Moines and St. Paul. The filling station at Des Moines serves the motors operating between Des Moines

and Spencer. Motors make the round trip between Albert Lea and Des Moines, Albert Lea and St. Paul, and Des Moines and Spencer without refueling. The filling station for motors No. 30 and 31 is at Winthrop, and the motors are maintained at Watertown. The motor operating between Minneapolis and New Ulm obtains fuel at Winthrop and is maintained at Minneapolis. The motor operating between Albia and Albert Lea is maintained at Albia. The motors operating between Oskaloosa and Peoria and between Oskaloosa and Mason City obtain fuel at Oskaloosa and are also maintained at that point. The Sunday layovers at Oskaloosa, Albia, Des Moines and Watertown enable the maintenance forces at these points to maintain the motor properly. A lubricating oil reclaiming plant with a capacity of 50 gal. daily is operated at Marshalltown, Iowa, to which used oil from the maintenance points is shipped in drums for reclaiming. This practice has proved satisfactory and economical.

Few Miles Lost

The availability of the motors has been good. In the 10 months ending October 1, 1931, the 11 motors ran a total of 781,410 miles and lost a total of only 16,412 miles. The percentage of miles lost as compared to miles run was 2.1 per cent. The miles lost include

Operating Performances, Dec. 1, 1930, to Oct. 1, 1931

Car	Miles Run	Miles Lost
1	90,156	8,125
2	76,896	3,519
3	72,355	1,595
4	20,667	00
25	106,121	1,266
26	111,115	681
27	116,536	00
28	115,840	606
29	32,599	620
30	20,560	00
31	18,565	00
Total	781,410	16,412

such mileage as was lost on account of shop work, holding for repairs and a few failures.

The 300-hp. motors in cars No. 1, 2, 3 and 4 have six cylinders. These cars haul a trailer coach occasionally. The others all have 400-hp. motors with eight-cylinder engines. Those assigned to trains No. 1, 2, 13, 14, 20 and 21 haul one trailer coach regularly and an extra car occasionally. Those assigned to trains No. 3, 4, 15 and 16 haul a mail car and a trailer coach regularly.

The power equipment for these cars was furnished by the Electro Motive Company, Cleveland, Ohio, with motors provided by the General Electric Company. The cars were built by the St. Louis Car Company.

Window Ventilators for Passenger Cars

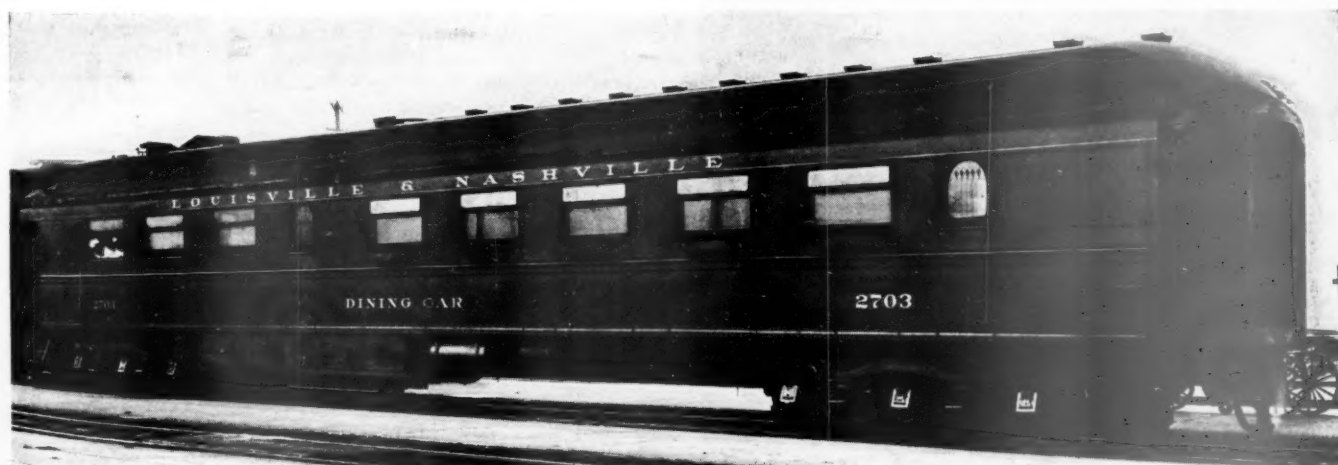
A WINDOW ventilator for filtering out the dust, dirt and cinders from the air passing through the ventilator has been developed by the American Air Filter Company, First and Central avenues, Louisville, Ky. Applications of the ventilator, known as the Airgard, were first made to a Louisville & Nashville dining car in August, 1931, and tested over a period of six months during a wide variety of weather conditions. These tests are reported to have demonstrated that the device not only eliminated dust, dirt and cinders, but also improved the condition of the air within the car.

The Airgard was originally developed by the American Air Filter Company as a means of treating seasonal hay fever by eliminating the causative pollens from entering a room or office. It operates on the same principle as the filtration systems this company has installed in buildings. Its compact design and efficiency in dust removal led to its use in apartments, homes and offices which were without in-built features of air filtration, but where air, free of soot, dust, bacteria and germs was desired.

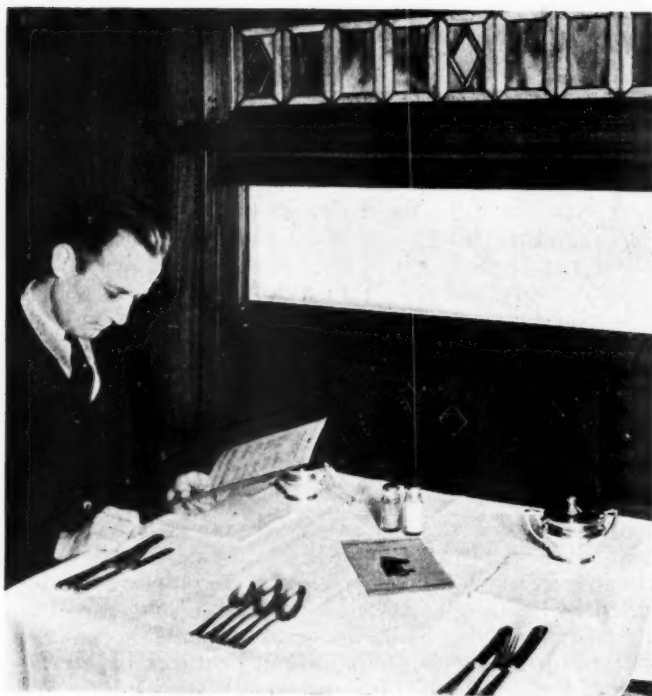
The device consists of a small, compact cabinet, 24½ in. by 7¾ in. by 6¾ in., in which is a motor, two rotary blower fans and air ducts, installed under the sash in each car window opening to provide a pure air supply at each table. Outdoor air is cleaned by passing through a mat filter and is admitted to the car through two rotary louvers on the front or inside panel, which may be adjusted by the persons at the table to suit their own sense of personal comfort.

The motor and fans are mounted on a plate which can be easily removed through the front panel. This permits servicing without disturbing the cabinet or installation. The shunt-wound, 1/30-hp. motor consumes about 2 amp. at 32 volts, which is about the same as a 60-watt lamp. A sturdy storm-protection intake hood is attached to the outside of the cabinet. An air-stop, or damper, which is operated by a push rod, is constructed within this hood so that passengers can conveniently shut off the outside air when desired and only inside air will be filtered and recirculated. No attempt is made to reduce the temperature of the air, except to secure comfort by the cooling effect of air motion. The volume of air flow may be adjusted by a center knob which controls the speed of the motor and fans.

The installation in the car window is comparatively



Louisville & Nashville Dining Car Equipped With Airgard Ventilators



An Airgard Unit is Placed in the Window at Each Table

simple. The cabinet takes up approximately the same space as the customary window screen and requires no change or alteration in the car except electric wiring. To secure the best results in a dining car it is recommended that a unit be placed in the window at each table and in one or two windows in the hallway at the kitchen end.

The outside panel is made of a single piece of sheet metal. It extends the entire width of the window opening and fits flush with the outside sash and back of the cabinet. This panel is bent over the top of the cabinet to fit under the lower rails of both sashes, and also bent under the Airgard to fit the slope of the sill to which

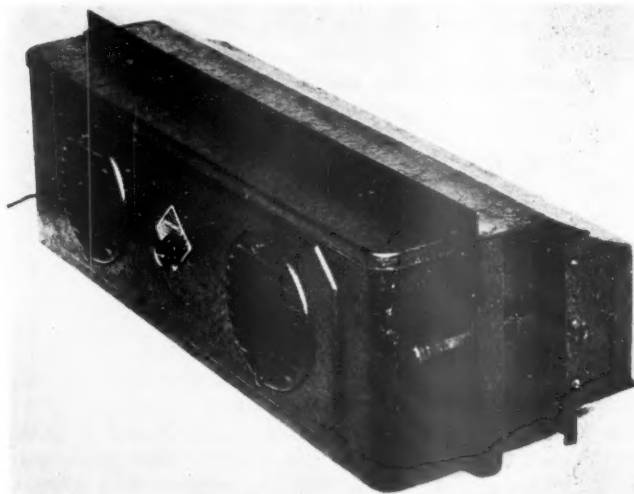


Dining Car Equipped With Airgards

it is fastened. Two inside panels fit flush with and under the inside window sash to close up the space at either side of the cabinet.

The Airmat filter sheet, which is a product of the American Air Filter Company, is impregnated with a special adhesive for trapping the dust particles. The countless tiny openings in the mat permit the air to pass through, but the dirt particles, such as soot, dust, and cinders, are enmeshed in the mazes of the fibrous mat. The filter sheets are changed when they become soiled to the point where the air flow is restricted. This is done two or three times a week, depending on the amount of dirt in the air on any particular run. These filter sheets are inexpensive, easily renewed and are discarded when soiled.

Airgards are designed to bring in a sufficient amount of outdoor air at maximum capacity to completely change the air in the car every two minutes. Each unit supplies from 20 to 200 cu. ft. per min. This rapid air movement tends to create a slight positive air pressure within the car which prevents infiltration of dirt or the entrance of odors from the kitchen, since the air moves toward the kitchen and out through the



The Patron Adjusts the Direction of the Current of Air by Rotating the Louvres—The Speed of the Motor and Fans Is Controlled by the Knob in the Center of the Front Panel—The Push Lever for Adjusting the Damper Is Shown at the Right

kitchen ventilators. The rapid movement of air across the tables eliminates the objection to smoking in a dining car. The tests have shown that patrons, even when seated opposite to persons smoking at the same table, were not conscious of any tobacco smoke odor whatever.

The units can be installed at small cost without mechanical changes or alterations to the car.

PRINTING TELEGRAPH ON THE RAILWAYS OF ITALY.—The Railway Gazette (London) quoting from an Italian paper, says that the Morkrum-Kleinschmidt printing telegraph is in use on a considerable mileage of the State Railways of Italy and that with the completion of extensions now contemplated the total number of machines in use will be 41, of which 33 are on long distance circuits. The replacement of Morse and Hughes telegraph apparatus by printers was begun in 1925. The principal lines now in operation are those from Rome to Bologna and thence to Milan; Rome to Genoa and Turin, and Bologna to Venice and Trieste.

Warns Against Specter of Government Operation

A WARNING that unless the net income of the railways can be preserved, government operation, as an emergency measure, is inevitable, was sounded by Ralph Budd, president of the Chicago, Burlington & Quincy, in an address before the Chamber of Commerce at Des Moines, Iowa, on April 8. Newspaper reports at the time erroneously quoted Mr. Budd as favoring government operation of the railways. What he actually said was that "it would be one of the greatest disasters that could overtake the country," and that in any event, "admitting for the sake of discussion that the policy of government ownership and operation might be tried, surely we do not want it to come through desperation." Mr. Budd's address follows in part:

The present regulatory laws were passed when it was assumed that the railways had a virtual monopoly of transportation, and, therefore, the regulatory bodies would be able at all times to prescribe such rates as would enable the railroads as a whole to earn a fair return upon the value of their property, and thus to maintain the necessary credit for improvements and expansion to take care of an increasing traffic for an indefinite period in the future. Along with this assumption of virtual monopoly there was the idea that railroad mileage and facilities as a whole were not more than adequate, and that the traffic available always would support the national system of railways.

An elemental change has taken place in that railways no longer have a monopoly of overland transportation. Partly on that account, and also partly because of an unprecedented business depression, the volume of traffic has fallen below that which will adequately sustain the railroads under present conditions with present costs of operation, including their exceedingly high taxes.

What happened was that, during the decade following the World War, the entire country enjoyed a period of building and general industrial activity which created an unprecedented volume of traffic for the railroads; and during that period, in order adequately to take care of the large traffic that was moving, and guided by past experience that the facilities constantly needed to be enlarged, the railroads expended vast sums of money for new tracks and terminals and for motive power and equipment, as well as for improvements in physical characteristics of their lines such as reduced grades and curvature, with the result that \$6,000,000,000 of investment was added, or about 30 per cent as much as had been expended for capital expenditures on the railways during the entire period of their history prior to 1920. These expenditures were for the purpose of handling adequately and expeditiously the largest volume of traffic ever offered, and also to do it economically. The basis for such adequate and economical handling was that larger cars and larger locomotives made possible the handling of larger train units. In short, the keynote of the improvement program was to provide more and more for mass production, following the lines of mechanization which has characterized all industrial activity. The result of this program of improvements was that the railways, in 1929, had reached the highest state of efficiency, and also had the largest capacity in their history.

What seems not to have been commonly understood was the fact that a large part of the construction program which resulted in the great volume of traffic was incidental to the building of the new and improved highways and the motor vehicles which were to use these highways in vastly increasing numbers. By 1930, 660,000 miles of improved highways had been constructed, and approximately 27,000,000 automobiles and trucks had been built and were using these highways. The amount of money expended for this duplicate overland transportation system amounted in the aggregate to approximately \$30,000,000,000, or more than the aggregate value of all the railways in the United States. With the virtual completion of this vast transportation rival of the railways, the large volume of traffic which was incidental to its creation not only disappeared, but the new transportation agency itself began to carry millions of people and large quantities of freight which formerly moved by rail.

The railways should be assisted in every possible way to reduce the cost of producing transportation. The soundest basis for their success is low cost of operation, so that the largest volume of railroad transportation will be used and the railroad machine, which has been set up for the production of mass transportation, may function as it has been designed to do. The tremendous growth in mileage and in tonnage handled by the railroads has been because of the very large amount of railroad transportation consumed per capita, and that in turn was made possible by the relatively low cost of railway transportation. The surest protection the railways have of their future security is to be able to continue furnishing the best and cheapest form of overland transportation, and for them to do this is as much in the public interest as it is in the interest of the railway employees, management and owners.

One thing that would be a long step in the direction of railway economy is the consolidation of the large number of companies into a limited number of systems. The nearly 1,000 operating companies should, in my opinion, be grouped into 20 or 25 large systems. The saving in overhead, in unnecessary duplication, in delays and expense of numerous transfers, would not only amount to a vast sum of money but would also improve the service. The premise that some competition is essential for the most vigorous and healthy development of trade, is all right, but the idea "the more, the better" has become obsolete and should be discarded.

With the very effective regulation which now prevails, a lesser number of strong railways able and willing to give service, will afford the public greater assurance of effective competition and resulting good service than is possible from an excessive amount of competition provided by many roads which are not strong and are weakened by their too numerous competitors.

Taxes Should Be Reduced

Railroad taxes, like all other taxes, have increased out of all proportion to earnings. It probably is true that the greatest problem before the nation today is the control of its expenses to the end that taxes may be reduced before the very government is overpowered. In no national business activity is it more necessary to reduce taxes than it is in the railway industry. Every thoughtful person must recognize the necessity of maintaining our national railway system in order that our business activities and social life may carry on in their accustomed way. I think no one can visualize the success of this country continuing without its railways being maintained approximately at their present state of efficiency.

The facts, however, are that unless the net income of the railways can be preserved it will not be possible to maintain their credit, and the inevitable result will be that the government will be obliged, as an emergency matter, to take them over. There are some in this country, but certainly in minority, who favor government ownership and operation of the railways. But the great masses of Americans are certainly opposed to any such policy, having seen the weakness and inefficiency of such operation during federal control of the railroads in 1918, 1919 and 1920. Personally I think it would be one of the greatest disasters that could overtake the country; certainly the idea is repulsive to those who have been brought up on the tradition that private initiative is the cornerstone of our industrial success.

But even if, for the sake of discussion, we should admit that the policy of government ownership and operation might be tried, surely we do not want it to come through desperation; that is, through the failure of private operation of the railways and the serious losses which would result from that failure. It is, however, not too much to say that that very danger threatens this country unless ways are found to bolster up railroad credit.

SANCTION OF THE BELGIUM PARLIAMENT to float a loan of \$22,400,000 in order to carry out a program of construction and renewals is to be asked by the Belgian Railways, according to a report from Consul Sholes, Brussels. The request asked that the Belgian government guarantee the bonds as to capital and interest. The funds thus obtained will be applied to renewal of rails; purchase of 4,000 freight cars; rebuilding of existing freight cars; renewal of ties; purchase of 20 steel passenger cars; electrification of the signal system; replacement of certain visible signals by sirens, and rebuilding of several bridges to facilitate high speed.

Motor Transport Section

"Progress Report" on Southwestern Store-Door Service

Traffic officers report varied results from provision of free pick-up and delivery — Agree it is too early for final conclusions

ON October 1, 1931, there became effective on the southwestern lines a tariff providing for free pick-up and delivery service on less-than-carload merchandise moving as either interstate or intrastate traffic for distances of approximately 300 miles or less. This represented the first joint action taken by railways in a large region to meet the competitive conditions created by the rise of motor truck transportation. Previously railways in the Southwest, as well as in other parts of the West, had made provision for free pick-up and delivery service on their own lines, usually through the medium of a subsidiary company, but such action by all railways in one territory had not thereto been taken. Consequently, this move of the southwestern lines attracted wide attention as a milestone in the history of railway transportation. By many, it was hailed as a portent of the adoption by railways all over the country of universal store-door pick-up and delivery for l.c.l. freight.

The free pick-up and delivery service was designed to protect the l.c.l. traffic of the southwestern lines from further inroads on the part of competitive trucks, and also to bring about the return of as much as possible of the traffic which the railways had already lost. The service has now been in effect for more than six months. Has it secured the hoped-for results? To answer this question, the *Railway Age* submitted it to the freight traffic officers of the principal southwestern lines. Specifically, the inquiry asked for evidence of the effect of the pick-up and delivery service on the volume of l.c.l. freight traffic handled and its apparent effect upon competitive conditions. Questions were also asked as to the reaction of shippers and consignees to the pick-up and delivery service and the proportion of them that elect to use it. Inquiry was made as to additional improvements in service—particularly in the speed of movement between terminals—which have been effected during the last six months and which, therefore, might have some bearing upon the volume of business secured in competition with motor trucks. Finally, a request was made for the opinions of traffic officers as to changes in the pick-up and delivery service or any of its features which would make it more effective in bringing about a recovery of freight traffic lost to competitive motor trucks.

Judging from the replies to this inquiry, the consensus of the freight traffic officers is that definite conclusions concerning the effectiveness of the pick-up and delivery service cannot yet be reached, partly because the service has not been in effect for a sufficient length of time and partly because certain developments dur-

ing the last six months have tended to destroy some part of the fundamental effectiveness of the scheme. The opinion is generally held that, under present day conditions, pick-up and delivery service is a necessary part of railroad transportation of l.c.l. freight, but its actual form of application is a matter upon which there is some disagreement. There is some evidence that the plan has been effective, in part, in attaining its object, although the opinion is generally expressed that it has not been so effective as its sponsors had hoped.

How the Service Is Provided

Before quoting from the statements of the traffic officers concerning the pick-up and delivery service, it may be well to describe briefly the store-door delivery plan itself, the region in which it has been applied and the manner in which it is operated. Southwestern lines tariff No. 88, I. C. C. No. 2318, filed with the Interstate Commerce Commission to become effective on October 1, applies on all l.c.l. freight traffic with certain exceptions, moving at either class or commodity rates subject to the western classification, or exceptions thereto, or the southern classification. The principal commodities excepted from the tariff are cotton and certain of its by-products, dynamite or other high explosives, and live animals.

The tariff applies at all agency stations within the following territory: All points in the state of Missouri south of the Missouri river, including St. Louis, Mo., East St. Louis, Ill., Kansas City, Mo., Kansas City, Kan., and St. Joseph, Mo.; all points in the states of Kansas, Arkansas, Oklahoma and Texas; all points in Louisiana west of the Mississippi river; all points in New Mexico except points west of Albuquerque, Belen and Deming; between points in these states, on the one hand, and the Mississippi River crossings from St. Louis and East St. Louis to New Orleans, La., inclusive; between St. Louis and East St. Louis on the one hand and Memphis, Tenn., and Helena, Ark.; and between Memphis and Helena.

The free pick-up and delivery service is accorded to traffic moving approximately 300 miles or less. Under contracts with local drayage companies at the stations shown in the tariff, these drayage companies act as the agents of the railroads in calling for l.c.l. shipments of merchandise intended for outbound movement, moving such shipments to freight stations for forwarding; and also calling at the stations for inbound shipments, delivering them to the consignees. Bills of lading for outbound shipments are signed upon request by the local drayage company at the time these shipments are re-

ceived by it at the warehouse of the shipper, and freight charges on inbound shipments are collected by the drayman upon his delivery of inbound shipments to the door of the consignee, except in the case of consignees to whom credit is extended. Shippers are required to notify either the contract trucker or an appropriate representative of their desire to make a shipment under the tariff and to arrange to have a truck call for the shipment. Upon arrival at destination, in order to secure delivery service, the carrier must have received previous notice of the consignee's desire for such delivery. This can be accomplished by the shipper endorsing or stamping on the bill of lading a statement to the effect that delivery service is desired, or by the consignee filing with the agent at destination written standing instructions to the effect that such delivery service is desired. Consignees may leave such standing instructions covering delivery of all shipments, regardless of origin, or covering only those shipments on which the expense of the delivery service is absorbed out of the tariff rates. Where the shippers deliver their own freight to the freight station for forwarding, provided such shipments require delivery at destination, the shipper is allowed a refund of 5 cents per 100 lb. to cover the drayage to the station. No allowance is made to a consignee at destination when he himself handles the drayage from the destination station to his warehouse. Such deliveries have to be made through the contract drayman in each instance.

Traffic Officers Comment

The comments of the freight traffic officers, with respect to the effectiveness of the pick-up and delivery service in bringing about the retention or return of traffic for which motor trucks are competing, follow, substantially in the form in which received:

Somewhat favorable results are reported by the Chicago, Rock Island & Pacific. "Due to the decrease in general business, it has been very difficult to determine definitely to what extent the service referred to has affected our tonnage," says A. MacKenzie, vice-president and freight traffic manager. "A rough estimate indicates that about five per cent of the l.c.l. tonnage we have handled in the territory where the service is in operation was either taken back from the trucks or would have gone to the trucks if the service had not been available. As to the reaction of shippers, we find a rather mixed condition, some of them appearing to

have little or no interest in the service while others are quite interested and find it of value. Some improvements were made in our service. As to changes which would make the pick-up and delivery plan more effective, we have had certain suggestions from some of our shippers who are not entirely satisfied with the present set-up, but our conclusion is that such changes would be too costly, considering the additional tonnage which might be regained."

The Gulf, Colorado & Santa Fe finds it impossible to make comparisons of freight handled which might indicate whether much traffic is being recovered. The business of the jobbers in the territory served by this railway has decreased to such an extent that there is no period which can be used for comparative purposes where all the circumstances correspond. Replying to the inquiry briefly, however, J. S. Hershey, general freight agent, says, "Except to a very limited extent, the grocery distribution is still moving by trucks on the highways. This class of traffic in this territory moves probably an average of not more than 50 miles. Merchandise otherwise distributed from the larger centers and moving substantially greater distances is moving now by railroad to a greater extent proportionately than it did before the pick-up and delivery service was established. Our freight train schedules have not been materially changed, and they afford about as prompt and efficient service as is possible under the present system of handling."

The International Great Northern is unable to state how successful the plan has been. The practical reductions in the rates involved in the allowances for pick-up and delivery service have, in most cases, equalled any additional revenue which might have been secured through an increase in traffic. Furthermore, traffic which formerly moved in the regular merchandise service on the railway has been attracted from that service by the pick-up and delivery feature, so that the additional traffic moving under the pick-up and delivery tariff has been paralleled by a corresponding decrease in the traffic handled in the ordinary way. Serious doubt is expressed as to whether shippers have responded to the new service to the extent hoped for by the carriers. The suggestion is made that freight consolidators, who have been handling most of the long-haul l.c.l. traffic, may have been affected to some extent.

A feeling that the results have been somewhat more favorable is expressed by the Kansas City Southern.



Two Pick-Up and Delivery Trucks Operated by the Contractor at Springfield, Mo., for the St. Louis-San Francisco

G. B. Wood, freight traffic manager, says: "We have found this service has not yet been in effect long enough to enable us definitely to ascertain the progress made. We do feel that it has been instrumental in slowing down the rate of decrease in l.c.l. traffic, but have not as yet been able to secure any accurate figures on the traffic which this service has helped us regain. We have extensive truck competition on merchandise from Kansas City to Port Arthur and the interstate operation of truck lines is a very serious matter to us, due to the fact that our line traverses sections of six states and the jobbing centers largely serve trade territories located in adjacent states. This has caused the regulation provided by the various states to be somewhat ineffective in so far as our territory is concerned. We have established fast mixed-train service, handling merchandise on passenger train schedules, and in our opinion this has met with the universal approval of the shippers and receivers on our line. It has been hard to differentiate, in accounting for the progress made in regaining l.c.l. business, between this improved train service and the pick-up and delivery service, and we have only reached the conclusion that both of these advancements have been very helpful in meeting this type of competition."

More traffic is moving under the pick-up and delivery tariff now than six months ago, according to the Missouri-Kansas-Texas, but the merchandise tonnage as a whole continues to decrease. "While the pick-up and delivery service was inaugurated on October 1, it is still in a more or less experimental stage," says R. C. Trovillion, freight traffic manager. "We do not have the statistics showing the traffic at all stations on our line, but taking Kansas City, Mo., as an example, the freight delivered to us in October, 1931, under the pick-up and delivery plan amounted to 32.2 per cent of the total merchandise tonnage received. In January, 1932, this was increased to 52.5 per cent. Our merchandise tonnage, of course, continues to show a decrease and at Kansas City the decrease is approximately the same as it was when the pick-up and delivery service was first inaugurated. We have no means of telling whether the decreases would have been greater if the pick-up and delivery service had not been established. Motor truck competition in our territory is keenly felt, not only with respect to merchandise shipments, but also with traffic previously handled by us in carload lots. The bulk of the truck traffic is confined to a radius of approximately 300 miles, although beyond that distance the trucking companies are operating to a lesser degree and their competition is felt. The pick-up and delivery service is working smoothly, and shippers and consignees have expressed themselves as being pleased with it and are urging that it be extended beyond its present scope. Our freight schedules are arranged so to as give the best possible handling to merchandise shipments and the service is being improved where conditions and necessity justify. Throughout our territory the motor trucks are more or less unregulated, and I believe that their regulation would be one means of bringing about recovery of freight traffic by the railways."

Regulation Essential

The Missouri Pacific reports that the pick-up and delivery service has been reasonably well received and patronized by the shipping public. In Arkansas and in Texas where this service was given first through a Missouri Pacific subsidiary and later directly by the railroad, and where the trucks are required to observe tariff rates, reasonably good results have been secured. "Taking the southwest as a whole," says an officer of the railway, "the unregulated truck competition has

made and continues to make serious inroads on the merchandise traffic which the railroad pick-up and delivery service was designed to handle. I fear that unless and until we get proper regulation of highway transport, this service rendered by the railroads is not going to prove very successful. Truck competition with the railroads and with other trucks throughout our territory is very severe and unless regulation is speedily provided, the trucks will not only seriously injure the railroad industry but, by competition among themselves, will destroy their own usefulness and value. With the establishment of pick-up and delivery service by the railroads, faster merchandise train schedules have been provided and overnight service generally is being accorded within distances of 300 to 400 miles or more. Our closing time at local freight stations at important distributing points has been set up to a later hour to meet prevailing conditions, and generally a better service is being accorded over our entire system. We have not yet reached conclusions as to the changes and refinements which might be made in the pick-up and delivery service in order to make it more effective. The subject, however, is still being studied with the hope that by the time general conditions improve and when the trucking industry shall have been reasonably regulated so that we may know more definitely the extent of the competition and what will be necessary to meet it, we will have reached conclusions as to the changes necessary to make it more attractive and effective."

300-Mile Limitation a Handicap

Some candid comments are offered by J. R. Turney, vice-president of the St. Louis Southwestern. "I question very seriously whether the experiment has gone far enough to determine anything at this time," says Mr. Turney. "As near as I can get at it, none of the southwestern traffic men agree about its effects or defects or how the latter may be remedied. I think all of us concede that the 300-mile limitation practically destroyed the worth of the venture as an experiment and in places has intensified rather than limited truck competition. In our territory, some of the truck lines are beginning to fall by the wayside—whether from general debility or as a result of reanimation of railroad competition, I do not know. Others are extending their operations materially. Shippers and consignees, because of the complexities occasioned by the mileage limitation, have now pretty definitely elected to confine themselves to the points where the service is given free. Our transportation company gave free pick-up and delivery service at all points on our line, except on overhead traffic and traffic to and from St. Louis, prior to the effective date of Tariff No. 88. When the tariff was published, we made our service and rates conform to its provisions, with the result that truck lines operating beyond the area were benefitted. We increased our merchandise business out of St. Louis within the 300 mile zone, but at the time the pick-up and delivery service went into effect, we also installed the "Blue Streak," so that the increase was due probably as much to the improved service as it was to the pick-up and delivery feature. I am satisfied in my own mind that pick-up and delivery on all l.c.l. freight, regardless of distance, is an absolute essential. I am also still of the opinion that the 300-mile limitation was and is a mistake which ought to be corrected."

Little Effect Because of Special Conditions

The pick-up and delivery tariff has had little effect on the Southern Pacific lines in Texas and Louisiana, due to special circumstances in its territory. S. G. Reed, freight traffic manager, says, "From observation

and from reports of our agents and representatives, it is our belief that the tariff has had little, if any, effect upon the interstate l.c.l. traffic. As a matter of fact, the Southern Pacific Lines have not experienced any loss of interstate l.c.l. traffic to the trucks for the reason that the hauls to and from our line on such traffic are so great that it has not been attractive to the trucks. Of course, in common with other lines, we have suffered a serious falling off in our interstate l.c.l. traffic in recent years, but this was due almost entirely to other causes than truck competition, the principal one being that a very large part of the interstate traffic that formerly moved under l.c.l. rates is now handled and has for some time been handled by the consolidated car operators. Another reason for this decrease is that, under the rates prescribed by the Interstate Commerce Commission in Docket 13535, the Consolidated Southwestern

Case, there has been a change in the method of distribution of freight by virtue of the fact that the carload rates were decreased for long hauls and l.c.l. rates increased for short hauls, thereby decreasing the volume of traffic moving as l.c.l. from origin to destination, and increasing the movement in carload lots to jobbing points and distribution from such jobbing points as l.c.l. traffic. Unfortunately, however, most of such distribution by jobbers has been made by trucks; hence the carriers have not received the benefits that the Interstate Commerce Commission expected they would receive by reason of this readjustment of rates. The reaction of shippers and consignees to the pick-up and delivery service has been very favorable and I think that the plan was a step in the right direction. Eventually, I think the plan will become universal throughout the country."

I. C. C. Urges Bus Regulation

Permit system proposed for trucks in policy
of making haste slowly

FINDING that the increasing competition between rail and water carriers and motor carriers is conducted "under conditions of inequality, particularly in regard to regulation," and that federal legislation relating to the regulation of motor vehicles operating upon the public highways in interstate commerce "is desirable in the public interest," the Interstate Commerce Commission on April 18 made public its report on co-ordination of motor transportation recommending a plan of regulation for motor bus transportation but that only a beginning should be made at this time so far as truck regulation is concerned.

The commission finds that "unrestrained competition is an impossible solution of the present transportation problem" and is "incompatible with the aim of co-ordination under regulation." It is the commission's thought that regulation should be provided which will "minimize injurious consequences by restraining competition within reasonable limits, encouraging desirable co-ordination between the rival forms of transportation, and stabilizing rates and financial conditions." However, because of the inexperience of the federal government in this field of regulation, the commission deems it wise to "make haste slowly" and recommends that Congress provide at once to put federal regulation to the test so far as motor bus transportation is concerned "as a nucleus for such further steps in motor vehicle regulation as experience and added information may show to be desirable and practicable." It also recommends that immediate authority be exercised over motor trucks, of both the common-carrier and contract type, by proposing a permit system, a requirement of liability insurance, and a plan of keeping records and making reports to the extent necessary to locate those which are operating in interstate commerce and obtain from them reasonable information about their operations.

In this way, it says, data will be secured which, as the legal situation clarifies, will be of great aid in pointing the way to further public regulation in the public interest. The recommendations, therefore, "must be regarded in the light of a progress report. They do not cover the utmost which we believe will ultimately prove necessary and desirable in the way of federal regulation of motor vehicles. They represent merely

the first step which we believe it is wise and practicable to make under existing conditions."

This report is in the name of Commissioner Ezra Brainerd, Jr., who was in charge of the investigation. It contains conclusions differing in some respects from those in the proposed report by Examiner Leo J. Flynn, who had recommended a more complete system of regulation. It also reiterates in original or modified form the recommendations of the previous investigation on which the commission reported to Congress in 1928. No provision is made for the filing of either minimum rates or tariffs by truck operators and the report omits the recommendation made by Mr. Flynn that in passing upon applications for certificates consideration should be given to the available transportation service by existing transportation agencies. It is proposed, however, that bus or truck service when directly engaged in by rail or water carriers should be subject to the provisions of the interstate commerce act and legislation supplemental thereto.

The report also includes much new material, not included in the Flynn report, some of which is placed in appendices, including estimates of the volume of bus and truck traffic in relation to rail traffic, and portraying vividly the serious economic effects being produced in the field of transportation by the advent of an unregulated form of transportation in which there has been invested in a comparatively few years a sum approximating the total investment in railroads. After some of the expressions of the report on this subject the recommendations come rather as an anti-climax. It is stated that "it is impossible with the information now available, to determine whether or not there is a subsidy received by motor operators for hire," but that it appears reasonable to conclude that under present conditions a very considerable part of common carrier truck operations "are conducted at a loss or at less than a reasonable profit."

It is pointed out that while in the period 1922 to 1930 Class I and II railroads increased their net investment in transportation facilities by \$5,314,500,000, in the same period \$5,600,000,000 was expended in highway construction and the total investment in motor facilities and highways at the close of 1929 is estimated at

about \$25,000,000,000, or only slightly less than the recorded book value of all steam railroads.

Conclusions

1. That transportation by motor vehicles, buses, and trucks, over the public highways is, within certain distances, and in certain respects, a superior service, and that the rail and water lines should be encouraged in the use of this instrumentality of commerce wherever such use will promote more efficient operation or improve the public service;
2. That there is substantial competition between rail and water carriers on the one hand and motor carriers on the other for the transportation of both passengers and freight and that this competition is increasing;
3. That such competition is conducted under conditions of inequality, particularly in regard to regulation;
4. That a contributing cause, aside from the general business conditions, of the present unsatisfactory financial condition of the railroads is the existence of unrestrained competition by rival transportation agencies;
5. That there is today, and probably would be under normal conditions, an excess of carrying capacity of existing transportation facilities;
6. That unrestrained competition is an impossible solution of the present transportation problem and is incompatible with the aim of co-ordination under regulation.
7. That federal legislation relating to the regulation of motor vehicles operating upon the public highways and engaged in interstate commerce is desirable in the public interest.

Recommendations

The specific recommendations are as follows:

1. In docket No. 18300, *Motor Bus and Motor Truck Operation*, 140 I. C. C. 685, we made certain recommendations for legislation. Specifically those recommendations which we renew in original or modified form are:
 - That Federal legislation relating to the regulation of motor buses engaged in the transportation of persons on the public highways in interstate commerce is necessary and desirable in the public interest.
 - That jurisdiction to administer such regulations be vested in the commission with authority to delegate specific matters to joint boards composed of members of State regulatory bodies charged with the administration of State laws relating to transportation by motor vehicle.
 - That there should be required as a prerequisite to operations (a) certificates of convenience and necessity, and (b) liability insurance or indemnity bond.
 - That certificates should be issued as a matter of course to bona fide operators who have been in business for a stated length of time prior to the effective date of the regulatory act, provided they comply with all other applicable provisions of the act.
 - That certificates should be assignable with the approval of the commission and revocable for cause.
 - That fares and charges should be just, reasonable, and non-prejudicial; and that schedules of fares should be published, filed, and observed.
 - That complaints against unlawful charges, practices, and service may be made.
 - That participation in joint fares between common-carrier motor buses and railroads and water carriers should be permitted but not required, and that such transportation should be subject to the provisions of the interstate commerce act.
 - That a uniform system of accounts should be required and provision made for the filing of such reports as the commission may deem necessary.
 - That brokerage in transportation of passengers for hire by a person not holding a certificate of convenience and necessity should be prohibited.
 - That the issuance and exchange of free passes should be prohibited except to the extent permitted under the interstate commerce act.
 - That railroads, whether steam or electric, and water carriers, subject to the act, should be specifically authorized to engage in the transportation of both persons and property by motor vehicles in interstate commerce over the public highways and that thereafter such service, when directly engaged in by any such rail or water carrier, should be subject to the provisions of the interstate commerce act and legislation supplemental thereto; and that to the extent that a certificate of public convenience and necessity is an antecedent to the operation of other common-carrier motor vehicles, common carriers subject to the act should be required to obtain a certificate of public convenience and necessity.
2. Transportation of property for hire by motor-trucks operating over the public highways in interstate commerce should

be subjected by law to reasonable public regulation. Carriers should be divided into two general classes, common carriers and contract (private) carriers. The first should include all carriers who undertake for hire to transport from place to place, over the public highways, by motor vehicle in interstate commerce, the property of those who may choose to employ them. The second should include all carriers not within the description of common carriers.

3. No person should be permitted to operate a motor vehicle for the transportation of property for hire either as a common-carrier or a contract carrier, over the public highways in interstate commerce, without first having secured a permit as hereinafter provided.

4. All motor carriers for hire should be required to apply to the commission for a permit to operate and upon compliance with all the applicable provisions of the act should be entitled to such permit, which should be issued for a definite period, should be assignable with the approval of the commission, and revocable by it for good cause shown.

5. There should be required as prerequisites to the commencement of operations: (1) If by common carriers, (a) a permit, and (b) liability insurance that will assure adequate protection for loss or damage to cargo, and for personal injuries and property damage; and (2) if by contract carriers, (a) a permit, and (b) liability insurance to secure the public in case of personal injury or property damage.

6. All motor carriers for hire should be required to keep such records of operations performed by them and make such reports as the commission may reasonably prescribe.

7. Freight-forwarding companies and express-freight companies should be made subject to the provisions of the interstate commerce act.

8. Participation in through routes and through rates between common carriers by motor truck and common carriers by railroad and by water should be authorized but not required, and such transportation, whether rail-and-highway, rail-water-and-highway, or water-and-highway, and such carriers which may or do engage in the same should be subjected to the jurisdiction of the commission to the extent now provided by law in the case of through transportation by rail-and-water lines except, however, the provisions as to the compulsory establishment of such through routes.

9. Jurisdiction to administer these regulations should be vested in the commission with directions or authority to refer specific matters to joint boards composed of members of State regulatory bodies, following substantially the plan outlined in Docket No. 18300, *supra*.

10. The commission should be authorized to confer or hold joint hearings with representatives of the State regulatory bodies, and should be authorized to avail itself of the cooperation, services, records, and facilities of any State.

11. For the present no requirements should be made regarding the qualifications of drivers, hours of service of employees, and the size, length, weight of load, and speed of motor vehicles operating for hire on the public highways in interstate commerce.

This for the reasons that the States now have a clear right to protect the public safety under their police powers; that, in the absence of legislation by Congress, State regulations of this character, if reasonable, are lawful even though they may indirectly affect interstate commerce; that legislation by Congress would manifest an intention to occupy this field of regulation and the effect would be to immediately exclude all State legislation upon the subject and to cast upon the Government the duty and burden of enforcement. The States have also very generally exercised their right to regulate in these respects, and Federal regulation is not as yet shown to be necessary. In order to obtain desirable uniformity in such regulations so far as they affect interstate commerce, it may become necessary for Congress to occupy this field.

12. As recommended in our annual report, 1931, Congress should provide for an impartial and authoritative investigation for the purpose of determining whether and to what extent motor, water, and air carriers operating in competition with the railroads are receiving direct or indirect Government aid amounting, in effect, to a subsidy; and, if so, what steps, if any, are necessary to correct this situation, with a view to placing competition on a just and equitable basis; and that such investigation, if instituted, be extended to cover also the question of whether it is desirable in the public interest that regulations affecting public safety and convenience in the operation of motor carriers be made uniform throughout the country, and, if so, how such uniformity may best be brought about.

The Remedy to be Applied

In a discussion of the remedy to be applied to the existing situation the report says in part:

In arriving at a solution of the problems presented, it is desirable to summarize the situation as we see it.

Interested parties agree that the transportation of passengers in interstate commerce by motor buses over regular routes or between fixed termini should be regulated. This opinion appears to be unanimous.

The motor-truck business is carried on for the most part by many persons and in rather small units, and to a considerable extent by the shippers themselves. The fixed investments are comparatively small. Depots and expensive terminals in congested districts are not required. The proportion of fixed to variable expenses of operation is small. Many trucks move if and when business is offered at remunerative rates. Schedules of movements are frequently not maintained. Because of the far larger number of persons or companies engaged in motor trucking for hire, the motor-truck industry tends to be less monopolistic than the motor-bus industry.

Regulation to be effective should include both contract and common carriers. They should be treated separately because it is no longer open to doubt that, consistent with due process of law, a contract carrier can not be converted against his will into a common carrier by mere legislative command, or be regulated as such.

Those opposed to Federal regulation of motor vehicles contend that regulation under the police powers represents the limit of any valid regulation of contract carriers, since the business of those carriers is said not to be affected with a public interest, and that any attempt to regulate the business of contract carriers as distinguished from their use of the highways infringes on the prohibitions of the fifth and fourteenth amendments. This would depend, we understand, upon whether the particular regulation was considered arbitrary or capricious, or whether it was deemed justly related to a matter of public concern and was reasonably necessary and appropriate to correct the evil sought to be remedied; in each case a judicial question and one which, in regard to the contentions here made, has not been authoritatively decided.

The Supreme Court decisions do not go to the extent of holding that a State can not regulate contract motor carriers doing business on the public highways. And in *Frost Trucking Co. v. Railroad Commission*, 271 U. S. 583, the court said:

"* * * the case presented is not that of a private carrier who, in order to have the privilege of using the highways, is required merely to secure a certificate of public convenience and become subject to regulations appropriate to that kind of a carrier; but it is that of a private carrier, who, in order to enjoy the use of the highways, must submit to the condition of becoming a common carrier and of being regulated as such by the railroad commission."

From this expression it can be inferred that the State may, where circumstances justify, regulate a contract motor carrier doing business on the public highways, at least to the extent of requiring "a certificate of public convenience."

It is, however, well settled that the power over commerce among the States conferred upon Congress by the Constitution is complete in itself, extends incidentally to every instrument and agent by which such commerce is carried on, may be exerted to its utmost extent over every part of such commerce, and is subject to no limitations save such as are prescribed in the Constitution; and it is sufficient for our purpose to state that the remedies we propose are, in our opinion, not only appropriate, but clearly within the constitutional power of Congress to prescribe.

So far as this record shows, the demand for Federal regulation of the transportation of property by motor truck comes mainly from the railroads. There is little present demand by shippers for such regulation.

The fact that shippers do not now generally recognize the need for Federal regulation of motor-truck operations does not prove that such regulation is not required in the public interest. The immediate advantages of unrestrained competition in transportation are easy to perceive; but the more remote consequences, which may be most injurious to all concerned, are not so easily foreseen and recognized. This has uniformly been the experience with such competition in the public services, of which transportation is the most important.

The evidence in this investigation shows very clearly that such injurious consequences may be expected from, and to some extent have already been produced by, the unrestrained competition of motor vehicles with the railroads and with each other. Some of these consequences may thus be summarized:

1. An instability in charges for transportation affected by the competition, resulting in widespread and unjust discrimination between shippers and uncertainty as to the basis upon which business may be done.
2. The loss of much capital invested in both the railroads and the motor vehicles.
3. Radical changes in the railroad rate structure which, in the final analysis, may result in loading the traffic which is

not affected by the competition with the utmost charges that it is able to bear.

4. A tendency to break down wages and conditions of employment in the transportation industry.

5. Increase in the hazard of use of the highways.

It is not our thought that anything should be done to suppress new means of transportation, such as those supplied by motor vehicles, which augment and improve the service furnished to the public.

Public regulation may be of three distinct general forms. One is regulation through taxation. Another is regulation through the police power in the interest of public safety and convenience. The third is regulation of rates, charges, practices, service, and other matters, such as this commission exercises in the case of the railroads.

Taxation is a most important matter, if conditions of competition are to be fair. Whether they now are fair in this respect is as yet far from clear. The evidence on this point, summarized in Appendix G, is incomplete and unsatisfactory. We have recommended to Congress a special and intensive investigation of this question by a body armed with appropriate authority and means of research.

The States are exercising their police power extensively for the protection of public safety and convenience in the use of highways by motor vehicles. This, also, is a most important matter. Congress has not as yet attempted to occupy the field so far as interstate commerce is concerned. Uniformity in such regulations seems highly desirable. It may be well for Congress to take action to that end. This is a matter beyond our purview, but we have recommended that it be made the subject of a special and intensive investigation under authority of Congress.

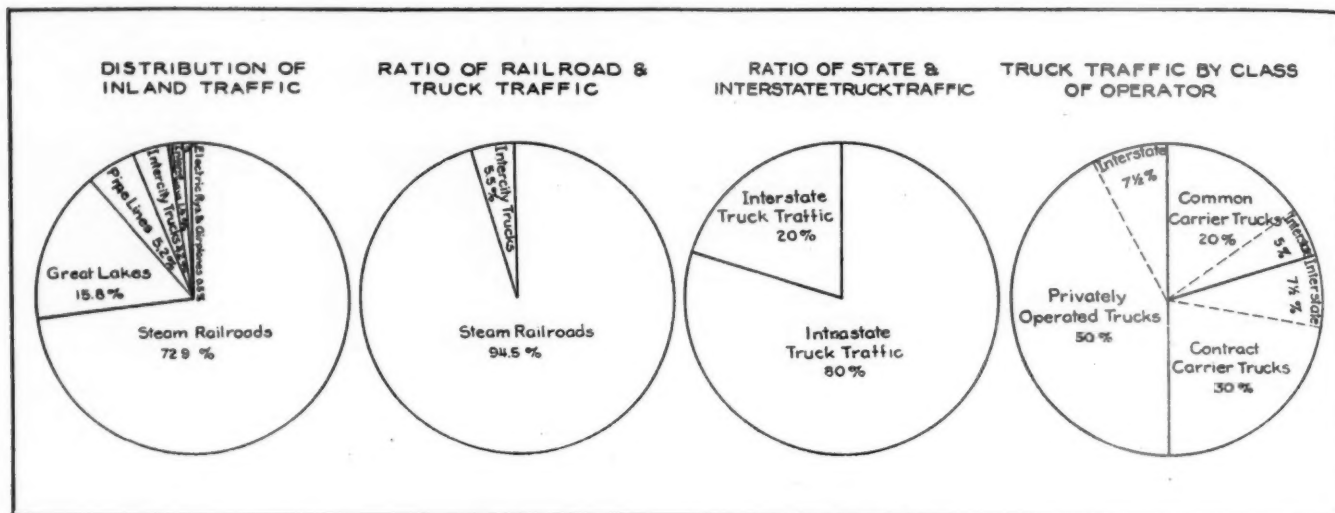
The need for regulation of the third form has been shown. Special and unusual difficulties, however, surround such regulation. One is a practical difficulty. It has been found impossible in this investigation to determine the number of motor vehicles operating as common carriers or contract carriers of property, or transporting the goods of their owners, in interstate commerce. Nor is it known how many concerns or individuals operate such trucks. The indications are that the number of operators is very large, and that the operations are mostly on a small scale. If this is a fact, as it appears to be, the practical difficulties of regulation are vastly increased. Regulation which is appropriate and practicable in the case of a comparatively few large, well-organized companies may be quite impracticable in the case of a multitude of individuals or small concerns.

Another difficulty is legal in its nature, but has important practical consequences. It is as yet uncertain how far regulation may lawfully be extended to contract carriers which do not operate as common carriers. Yet the common-carrier trucks are in competition with the contract trucks, to say nothing of the trucks which are owned by those whose goods they transport. An attempt to regulate common-carrier trucks without similar regulation of competing trucks may not only be unfair but may have the result of driving the common carriers into the contract field. It is the common-carrier trucks, also, which now largely serve the smaller shipper. Inequality in regulation may, therefore, result in discrimination as between the larger and the smaller shippers. The States are now providing a field of experimentation the results of which are likely to throw light on the underlying legal question. Indeed, certain cases are now pending in the courts, the decisions in which may be very illuminating.

Following are some extracts from the report:

Extent of highway trucking operations.—Full information as to the highway-freight industry is not available. The number of trucks in all classes of service increased from 85,600 in 1914 to 1,006,082 in 1920, to 2,764,222 in 1926, and to 3,480,939 in 1930. A very large proportion of these vehicles are used in strictly urban and suburban activities or are farm owned. The number of trucks engaged in either commercial or private hauling over the highways is not definitely known and there are no comprehensive figures as to the volume of freight carried or the revenue derived therefrom.

We have carefully examined existing estimates of the volume of truck traffic and have made additional estimates as set forth in Appendix B. It is concluded that in 1929 the volume of highway trucking, expressed in ton-miles, was approximately 6 per cent of the volume of steam-railroad traffic and approximately 4 per cent of the volume of all inland traffic—rail, water, pipe line, and highway. In terms of revenue, these percentages may run a third to a half higher, becoming approximately 8 and 6 per cent, respectively. We have also estimated, as explained in Appendix B, that nearly 20 per cent of all truck traffic is interstate traffic. Applying this finding to the ratio of truck to total traffic, it is concluded that approximately 0.8 per cent of all inland traffic in 1929



Importance and Distribution of Truck Traffic, 1929
(All items in terms of ton-miles)

was interstate truck traffic. While all forms of transportation have felt the effects of general business conditions, known developments in the trucking field in the past two years indicate that the percentage of truck traffic is greater today than in 1929. The figures given indicate, however, the general size of the industry.

It is estimated in Appendix B that nearly 20 per cent of the truck traffic, in terms of ton-miles, is handled by common-carrier trucks, 30 per cent by bona fide contract carriers and 50 per cent by private operators. This conclusion may overstate the importance of private operators and understate that of contract carriers.

The accompanying chart shows the ratio of truck to rail and to all inland traffic, the distribution of truck traffic in terms of ton-miles by class of operator, and between State and interstate movements.

Commissioner Lewis, concurring in part, said he was convinced that, just as quickly as it can properly be developed, there must be put into effect adequate regulation of the commercial motor bus and truck, including rates, fares, charges, and practices; that unregulated competition would in time not only destroy such an adequate and necessary railroad system as contemplated and declared for by Congress, but also be detrimental to the development of proper motor transport; that the repercussion of unregulated truck competition in the field of transportation would detrimentally affect the general financial, commercial, economic, and social structure. Therefore, he would go further than the conclusions or recommendations of the report, and he suggested that the imposition of a nominal charge for a vehicle-license plate would not only provide a fund to cover the cost of administration but would also produce much of the definite data needed and would provide a staff of inspectors and policing officials. He also expressed regret that the recommendations did not provide for the filing of tariffs on the ground that these would also furnish valuable information necessary in developing a proper regulatory system.

Commissioner McManamy, also concurring in part, said he was not convinced that regulation of trucks should be undertaken by the federal government and that it should not cloud the rights of the states by establishing halfway measures. Commissioner Lee joined in this expression.

In a general way the commission's recommendations support the Couzens bill, on which hearings have been held before the Senate committee on interstate commerce, although the latter also includes provisions relating to hours of service and similar matters. The bill is being rewritten for the committee by the legislative drafting service and the committee has had one or two meetings on it since the hearings closed in conference

with Commissioners Brainerd and Eastman but most of the committee members have been more interested in fiscal legislation. Chairman Rayburn of the House committee on interstate and foreign commerce, has announced that bus and truck legislation would be the next order of business for the committee and is studying the bill to see if additional hearings will be required. The committee has been waiting for the commission's report and also to see if the Senate would take action at this session, as the House once passed a bus-regulation bill.

New 3-to 4-Ton White Truck

A NEW 6-cylinder truck, having a tonnage rating of 3 to 4 tons and an allowable gross weight rating of 18,000 lb., has been announced by the White Company, Cleveland, Ohio. This truck known as Model 618, is capable of carrying a large payload at a speed of approximately 35 miles per hour. The new model is designed for all-around trucking service and is said to be especially suited for various kinds of public utility operation.

The chassis is powered with a White six-cylinder L-head engine, with a bore of $3\frac{3}{4}$ in. and a stroke of $4\frac{1}{2}$ in., giving a piston displacement of 299 cu. in. The N.A.C.C. horsepower rating is 33.75. The engine has a counterbalanced crankshaft, seven main bearings, and oil and air filters. A single plate wet clutch is used, together with a heavy-duty five speed transmission.

Standard equipment includes cast steel wheels with 9.00-20 tires on both front and rear wheels. As optional equipment Budd wheels and various larger tire sizes may be obtained. The service brakes are of the hydraulic, internal expanding type operating on all four wheels.

The frame for the models with the 166-in. and shorter wheelbases is $\frac{1}{4}$ in. thick, 8 in. deep, with a $3\frac{3}{4}$ -in. top flange and a $3\frac{1}{4}$ -in. bottom flange. For the longer wheelbases, a somewhat heavier pressed steel frame is provided.

The standard wheelbase is 166 in., but there are 4 optional wheelbases of 136 in., 152 in., 186 in. and 206 in. The distances from the back of the cab to the center of the rear axle range from 54 in. to 124 in., and the distances from the back of the cab to the end of the frame range from $96\frac{1}{2}$ in. to 210. The weight of the standard chassis with the 166-in. wheelbase is 6,775 lb., with 3,075 lb. on the front wheels and 3,700 lb. on the rear wheels.

Communications . . .

Spiking the Westinghouse Fable

NEW YORK.

TO THE EDITOR:

In my experience as engineer of tests of the New York Central, I have heard many stories about railroads which have no basis in fact but which do the railroads much harm by perpetuating the idea that they are not progressive. One of the most enduring of these stories is the fable about the cold reception that George Westinghouse is popularly supposed to have received from the railroads when he tried to interest them in air brakes. Only recently this story was again repeated when a promoter of certain ideas for eliminating smoke and cinders incident to locomotive operation wrote a letter to the president of the New York Central, in which he said:

But my interest in the matter was renewed greatly through the recent Westinghouse Memorial services wherein it was stated, in reviewing his career, that when, in the early days, he (George Westinghouse) first approached the elder Vanderbilt and said that he had a scheme for braking a train by the use of air, Vanderbilt said: "I have no time to waste on fools" and ceremoniously caused him to be ushered from his presence.

This tale was given such wide publicity and has persisted for so many years that it appears about time that its falsity was exposed, especially now that it has been given semi-official sanction by repetition at the recent Westinghouse Memorial dedication. As proof that the story is untrue, I quote the following statement made by George Westinghouse in an address delivered by him December 6, 1910, at the annual meeting of the American Society of Mechanical Engineers:

I suppose many persons present have heard or read the story of an alleged interview between Commodore Vanderbilt and myself about the application of air brakes to the New York Central. The story as told seems to have appealed to the imagination of many people. As a matter of fact, there is no foundation whatever for that story. From the moment when the practicability of air brakes was demonstrated, to the present hour, there has been nothing but satisfaction and pleasure in being associated with an invention which has contributed so much to the safety and comfort of travelers and so greatly to the prosperity of railways.

H. W. FAUS,

Engineer of Tests, New York Central.

Some Truck Operators Would Favor Regulation

WATERTOWN, CONN.

TO THE EDITOR:

Some weeks ago you published in your editorial column a "Call for Volunteers." Since then I have noted several communications dealing with the subject that have been published in your magazine; in the latest issue (April ninth) there appears a letter from Mr. Francis J. Ahern, who advocates circulating petitions among railway employees and other interested parties, for the purpose of bringing their wishes in effective volume to the consideration of the several state and national legislatures.

Now Mr. Ahern is a railroad man, and doubtless he is in an exceptionally favorable position to examine transportation conditions at first hand, whereas I am not, but it seems to me that his excellent idea should be extended to transportation in general, not merely to the rail carriers.

On reading, in the *Railway Age*, of the testimony of truck companies before Senator Couzens, I was impressed with the fact that a good proportion of the highway carriers are just as anxious for some really constructive regulatory legislation as are the railroads. It is a well known fact that affairs in the trucking industry are in a chaos; "wildcat" operators are threatening the very existence of the established, responsible companies. So why not gather into the fold such men of the trucking business as may wish for a change in the present transportation laws, and with their names augment the efficacy of the petitions that would be presented to various Congressmen under Mr. Ahern's plan?

And may I add, in closing, a fervent prayer that our lawmakers, when considering the proposed legislation, keep always in their minds the realization that the old law of demand and supply operates just as much in respect to transportation as anywhere else?

ROBERT C. BLACK III.

Odds and Ends . . .

They Leave It to Mr. Casey

Down at Laurel, Miss., they seem to spend most of their time thinking up new jobs for B. D. Casey, agent for the Gulf, Mobile & Northern. First, his neighbors made him a member of the park commission. Then he was made a director of the Laurel Chamber of Commerce. That didn't seem to keep him busy enough so, a month or so ago, he was elected president of the Laurel Y. M. C. A. Now he has been made president of the Rotary Club of Laurel, and as if that wasn't enough, he has also been appointed chairman of the anti-hoarding campaign in the city.

No More "Smoky Mary"

"Smoky Mary" made her last run on March 15. "Smoky Mary" is the interesting pseudonym of the Pontchartrain Railroad train which has been chugging back and forth between Pontchartrain Junction and Milneburg, La., a distance of about 4½ miles, for many years. One hundred and two years after its organization, the Pontchartrain Railroad was dissolved by authority of the federal court on March 4. "Smoky Mary" made her last run "on time." With Engineer John Galivan, her master for the last 37 years, in the cab, she drew to a laborious halt at Pontchartrain Junction, gave a last defiant blast of her whistle and resigned herself to the scrap heap.

A \$100 Slogan

They have finally decided that slogan contest on the Norfolk & Western. "Precision Transportation" is the slogan which won the prize and which the Norfolk & Western hopes to make as well known among its patrons as "Ask the Man Who Owns One," "Eventually—Why Not Now?" and other such trade marks. The winner of the contest was B. G. Lilly, yard clerk at Bluefield, W. Va., who received the grand prize of \$100 in cash. He won in spite of the fact that the odds were all against him. He was one of only 22 Bluefield employees who took part in the contest, which was sponsored by the Norfolk & Western magazine, while 179 Roanoke employees contributed slogans, giving their city a numerical advantage. The winning suggestion was No. 607, out of the total of 2,289 suggestions submitted by 408 employees. The judges had quite a time picking the winner. They eliminated all but 141 without much difficulty, but after that they could not seem to get together. A larger committee, composed of advertising experts, writers, printers, editors and railroad officers had to be called upon to help the judges make up their minds, and in the final count the largest number of votes was cast for "Precision Transportation."

Greyhound Lines Sponsor National Radio Program

The affiliated Greyhound Lines have contracted for what is said to be the third largest radio network ever employed in a series of national radio programs for their "Greyhound Traveler" advertising, which was broadcast for the first time on April 3. This radio advertising campaign is carried through a total of 49 stations. The broadcast consists of 15-min. programs which go on the air on Sunday evenings at 8:30 p.m. eastern standard time for eastern and middle western states, and at 9:15 p.m. mountain time for western states.

The program consists of a short announcement, followed by a description of the places selected for featuring in the particular program. Among the localities to be described are the Redwood Highway and California Missions; Detroit and the Kentucky Blue Grass country; Boston, Mass., and San Antonio, Tex.; Washington, D. C., and Charleston, S. C.; Mammoth Cave and the Stone Mountain Memorial; Montreal, Que., and Juarez, Mex.; the Chicago World's Fair and Philadelphia; Lake Itasca and New Orleans, La.; New York and Niagara Falls; and the Los Angeles Olympic games and Pike's Peak, Colo.

NEWS

R. B. A. Reorganization Plans Being Prepared

Aim is to expand activities and function more effectively for good of railways

The Railway Business Association is being reorganized and expanded so that it may function more effectively for the good of the railways. The plans provide for changes in its administration and for refinancing on a larger scale so that the association can undertake an extensive campaign to better the present unsatisfactory situation of the railways. As a step in this reorganization, the headquarters of the association will be moved from Philadelphia to Chicago. Present plans also contemplate a change in the name, the Railway Manufacturers' Association having been suggested.

Under the new arrangement the present members of the general executive committee will become a board of directors and a new executive committee will be created, consisting of the following: George E. Scott, president of the American Steel Foundries, Chicago, (chairman); George H. Houston, president of the Baldwin Locomotive Works, Philadelphia, Pa.; George P. Baldwin, vice-president of the General Electric Company, New York; H. S. Humphrey, executive director of the Westinghouse Air Brake Company, Wilmerding, Pa.; F. N. Bard, president of the Barco Manufacturing Company, Chicago; W. B. Given, Jr., president of the American Brake Shoe & Foundry Co., New York; C. A. Liddle, president of the Pullman Car & Mfg. Corporation, Chicago; W. E. Sharp, president of the Grip Nut Company, Chicago; and W. H. Woodin, president of the American Car & Foundry Company, New York.

Harry A. Wheeler, formerly vice-chairman of the First National Bank of Chicago, has been selected as president and will be elected to succeed Alba B. Johnson. Mr. Wheeler was born in Brooklyn, N. Y., on May 26, 1866. In 1894 he became district manager of the Credit Clearing House, Chicago, and in 1899 was elected vice-president, which position he held until 1901, when he was elected president. In 1910 he resigned to become vice-president of the Union Trust Company and in 1924 was elected president. When the Union Trust Company was merged with the First National Bank of Chicago in February, 1929, Mr. Wheeler became vice-chairman of the latter institution, which position he held until July, 1931. In 1912-13 and again in

1918-19, he was president of the Chamber of Commerce of the United States and in 1919 was a member of the White House Industrial Conference. In 1917-18 he served as Federal Food Administrator for Illinois.

Maine Central Plans Store-Door Service Railway Express Agency to assist in free collection and delivery at twelve stations

Through a co-ordinating arrangement with the Railway Express Agency, the Maine Central, beginning on May 2, will establish store-door collection and delivery service for l.c.l. freight at 12 of the principal cities and towns served by the railroad in the state of Maine. No additional charge will be made for the store-door service and its limits at each point will be the already established territory of the Express Agency. The Express Agency, the announcement points out, is primarily engaged in the handling of package freight in passenger express train service and its organization personnel is local to each community where established.

"The acute competition of highway trucks," said President McDonald of the Maine Central, "has severely drawn traffic away from the railroad and likewise the Express Agency. The co-ordinated arrangement in giving to the public, without additional charge, this enlarged service of pick-up and delivery of l.c.l. freight is undertaken as an experiment, but with the conviction that it will be mutually advantageous to the patrons in the communities served, the railroad and the Express Agency. If it develops a satisfactory and warranted service its extension to other points on the Maine Central, also on other railroads, may be expected."

North Western to Continue Weekly Suburban Ticket

The Chicago & North Western, which placed a 12-ride weekly commutation ticket in use last November, for a six months' trial, has decided to extend the trial period another six months. This ticket is issued at a rate per ride slightly less than the 25-ride ticket, but more than the monthly ticket. It also gives the holders the opportunity to purchase additional mileage on the same division not to exceed 50 per cent of the mileage represented by the ticket, at a rate of two cents a mile. This option will be discontinued on May 1.

Briefs on Four-System Plan Filed with I. C. C.

Ask prompt settlement of question as to how eastern roads are to be grouped

Prompt settlement, if possible, of the question as to how the eastern railroads should be grouped in a consolidation plan is urged by the Baltimore & Ohio, Chesapeake & Ohio, and Pennsylvania in their brief filed with the Interstate Commerce Commission on their application for approval of the four-system plan. Asserting that "we are facing difficult conditions which cannot be met by hesitation or solved by way of uncertainty and confusion," the brief also says that the time and energy which has been devoted to devising plans of consolidation can now be better devoted to the more constructive purpose of carrying some plan into effect. "Other proposals may be easily set up—on paper," the brief says. "Objections to the present proposal, or any other which may be made, may be readily formulated—also on paper. But this is the only proposal yet made which has the essential and persuasive merit of reasonably assured fulfillment. We submit, therefore, that this matter should now be lifted out of the confusion of theories, howsoever attractive, and of selfish interests either of the carriers affected or of local communities concerned, and considered in the light of the policy of the transportation act and the larger interests of the country as a whole." Oral argument on the plan is to be heard by the commission on April 25 and 26.

After asserting that "the only real opposition from other railroads or from communities may fairly be said to relate wholly to local situations," the brief says that "broadly speaking there has never been a time since the passage of the transportation act when there has been so close an agreement and such a lack of real opposition as results now from the filing of the application and the closing of the hearing upon it. The commission itself, we may say, has recently urged consolidation as a means through which the present emergency conditions may be alleviated to some extent and it is of the utmost importance that, as soon as may be, economies in operation and in capital expenditures shall be realized. And although other systems differently composed might be suggested, yet those which are now proposed have

(Continued on page 706)

New Container Service on Lehigh and C. N. J.

Tariffs, effective May 10, contemplate use of Church containers for l.c.l. freight

The Central of New Jersey and the Lehigh Valley have filed with the Interstate Commerce Commission tariffs which contemplate the introduction of Church Freight Service containers for l.c.l. shipments between both local and inter-line stations of the two participating railroads. These tariffs, which become effective May 10, have also been filed with the Public Service Commission of Pennsylvania.

The Church Service involves the handling of both perishable and non-perishable l.c.l. freight by containers designed for loading in box cars and readily interchangeable between rail and highway vehicles. A demonstration shipment of perishables, made last November over the Lehigh Valley and the New York Central, was described in the *Railway Age* of November 21, 1931, page 786.

The tariffs provide for the application of regular l.c.l. rates on the weight of each commodity loaded in the container, subject to a minimum charge of 800 lb. at the first-class rate. In addition there is to be a \$4 charge per container per shipment when a non-insulated container is used and \$7 for an insulated container. If a container carries articles differently classified or rated they will be charged for separately according to their respective weights and at the rating or rate applicable to the particular commodity. Loading and unloading is to be performed by the shipper and consignee, respectively, and for such purposes the "containers must be removed from railroad property."

As indicated in the foregoing, Church containers furnished in connection with the service, will be of two types—insulated and non-insulated. The former is insulated with two inches of balsa wood and lined with sheet steel and equipped with a device for refrigeration by means of solid carbon dioxide. Refrigeration is provided by the shipper and the railroad assumes no responsibility therefor.

The tariff rule on packing requirements stipulates that "articles for which provision is made for shipments in boxes or crates will be accepted without boxing or crating, except that packing requirements for inner containers must be complied with, such shipments to be subject to the rates provided for such articles when shipped loose or in inner containers in boxes or crates, whichever is lower." Another rule states that if the container is not to be reloaded by the consignee it should be returned to the railroad. In connection with this rule the Church container is described as "a permanent package and the property of the company furnishing them."

Demurrage at the rate of \$1 per container per day or fraction thereof will be assessed against containers detained in excess of a free time allowance.

Empty containers delivered by the railroad for loading will be allowed 24 hours free time, figured from the first 7:00 a.m. following such delivery, and loaded containers will be allowed 24 hours free time from the first 7:00 a.m. following notice to consignee of arrival. If a container is returned under load the free time will be extended to 48 hours.

Express Agency Plans L. C. L. Freight Service

Considering the establishment of two or more routes radiating from Chicago

Although it has not completed its plans and applied for the necessary operating permits the Railway Express Agency is considering the operation of motor trucks for l.c.l. freight on two or more routes radiating from Chicago. The first routes probably will be between Chicago and Milwaukee, Wis., and between Chicago and South Bend, Ind. Whether service will be rendered entirely by motor truck or will be carried on through a combination of rail and truck service using the former for inter-city hauls and the latter for pick-up and delivery has not yet been determined.

The possibility that Railway Express Agency may engage in large scale handling of l.c.l. freight has been actively discussed for some time. The suggestion that the Agency should handle all l.c.l. freight was made in the Examiner's proposed report following the Interstate Commerce Commission's investigation of matters concerning the co-ordination of railway and highway transportation. A similar suggestion was also made by Fred W. Sargent, president of the Chicago & North Western, in addressing stockholders of that company at its recent annual meeting, when he pointed out that the Express Agency would be the logical medium for handling l.c.l. freight for the railroads on a national scale because it is owned by the railways and has a national organization experienced in and equipped for truck operation.

Refrigeration Case Recessed Until May 11

Hearings in connection with the Interstate Commerce Commission's investigation of refrigeration charges on fresh fruits, melons and vegetables, which opened at San Francisco, Cal., on April 4, were recessed on April 13 until May 11, in order to afford attorneys for both shippers and railroads an opportunity to study the testimony. The hearings will be resumed at San Francisco, but later will adjourn to Los Angeles. At San Francisco, Leroy S. Price, commission auditor, explained the numerous items of his exhibit. He showed that there is a great difference between the cost of ice in the eastern and western territories. The cost in the West approximates slightly under \$3 a ton, whereas in the eastern territory it is slightly in excess of \$6.

Employees Foster Favorable Ky. Laws

League support of truck tax and regulation bills great help in securing enactment

Kentucky railroad employees, through their organization, the Kentucky Railroad Employees and Citizens League, were of considerable influence in securing the passage, by almost unanimous action, of the new laws relating to commercial motor vehicle operation in that state, described in the *Railway Age* of April 9, page 615. The association was organized in Louisville in April of last year, an appeal being broadcast to all employees, and a fund was secured to finance the distribution of circulars, membership cards, posters, petitions, etc.

Only employees from the ranks and business and professional men were accepted as members—no railway officers were included. By December the league had secured 63,000 petitions for better taxation and regulation of commercial motor vehicles, addressed both to Congress and the state Legislature. Signatures were secured not only from railway employees but from municipal officers, educators, merchants, lawyers, clergymen and some local truck operators. Petitions from each district were presented to the member from that district, who was thus appealed to by people personally known to him. All members of the league were urged to call upon their state legislators personally, and many of them did so. During the entire session of the Legislature officers of the league were in attendance, maintaining constant contact with members.

The league disavowed any political aspirations other than a promise of loyalty to individual legislators who would favor and foster the desired legislation. The contribution requested from members was only 50 cents. The league maintains headquarters at 401 Bankers Realty Building, 205 South Fourth street, Louisville. Wm. Bodine is president, E. Kirk, secretary, and George L. Phillips, treasurer. It has a board of sixteen directors representing the employees of every major railway operating in the state.

B. & O. Air-Conditions National Limited Throughout

The Baltimore & Ohio inaugurated the first completely air-conditioned through sleeping-car train on April 20, when the National Limited was made up entirely of fully air-conditioned cars on its regular runs in both directions between New York and St. Louis via Philadelphia, Baltimore, Washington, Cincinnati and Louisville. Plans for the inauguration of this improved service were kept a carefully guarded secret until two days before the event. Similar equipment will be assigned to the B. & O.'s Capitol Limited, operating between New York and Chicago, about the middle of next month.

(Continued on page 706)

Operating Statistics of Large Steam Railways—Selected Items for the Month of February, 1932.

Region, road and year	Average miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Average number of locomotives on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross, Excluding locomotives and tenders	Net, Revenue and non-revenue	Serviceable	Un-serviceable	Per cent un-serviceable	Stored		
New England Region:														
Boston & Albany.....	1932	402	127,133	131,775	8,577	3,238	65.5	168,647	55,453	71	64	47.2	17	
	1931	407	148,514	154,268	11,609	3,737	64.4	202,449	73,267	92	37	28.5	29	
Boston & Maine.....	1932	2,063	266,243	301,603	28,341	8,212	67.9	440,438	159,711	157	134	46.1	32	
	1931	2,066	308,591	353,638	34,227	9,882	67.6	539,298	202,633	256	50	16.4	66	
N. Y., New H. & Hart.....	1932	2,055	324,119	392,939	23,411	10,374	63.8	562,232	200,178	224	118	34.5	21	
	1931	2,094	360,399	420,488	23,001	11,930	63.4	674,585	256,961	270	79	22.5	33	
Great Lakes Region:														
Delaware & Hudson.....	1932	848	203,243	265,903	28,409	6,221	59.7	396,759	178,395	246	28	10.1	144	
	1931	876	262,422	344,435	33,034	7,908	60.2	509,629	234,695	242	28	10.2	111	
Del., Lack. & Western.....	1932	998	319,234	350,342	40,118	10,186	65.3	587,241	231,514	209	58	21.8	49	
	1931	998	383,704	424,463	51,436	12,205	65.5	712,522	293,009	217	60	21.8	28	
Erie (inc. Chi. & Erie).....	1932	2,316	574,613	600,950	51,264	24,069	62.2	1,447,647	550,658	353	134	27.6	129	
	1931	2,316	679,201	713,168	61,354	28,893	60.9	1,776,747	689,026	385	93	19.5	109	
Grand Trunk Western.....	1932	1,021	187,594	189,183	1,578	4,505	60.6	268,708	93,360	102	47	31.5	36	
	1931	1,019	212,904	216,084	3,550	5,999	61.0	351,442	123,389	115	39	25.3	40	
Lehigh Valley.....	1932	1,343	356,818	373,599	36,785	10,604	63.5	639,007	257,210	219	125	36.4	47	
	1931	1,343	421,087	450,429	45,363	12,604	61.4	789,486	325,932	228	113	33.2	17	
Michigan Central.....	1932	2,115	359,809	360,257	8,363	10,626	59.5	620,062	200,457	134	89	40.0	41	
	1931	1,869	379,256	381,387	9,482	12,399	60.9	716,046	244,586	155	61	28.1	45	
New York Central.....	1932	6,225	1,354,449	1,453,964	88,381	48,789	59.8	3,017,864	1,192,881	690	578	45.6	139	
	1931	6,423	1,569,785	1,713,086	122,572	57,617	59.7	3,623,191	1,469,254	888	449	33.6	287	
New York, Chi. & St. L.....	1932	1,660	423,730	436,413	4,870	12,797	60.3	731,589	256,415	166	43	30.0	56	
	1931	1,660	461,695	470,139	5,808	14,862	59.0	887,080	310,244	177	66	27.1	48	
Pere Marquette.....	1932	2,202	281,862	290,670	2,626	6,560	59.2	420,230	161,597	142	33	18.9	40	
	1931	2,201	302,410	311,253	2,665	7,323	59.8	455,474	173,838	161	25	13.5	55	
Pitts. & Lake Erie.....	1932	235	48,336	49,516	721	2,017	57.7	162,608	88,862	53	31	36.7	31	
	1931	235	78,256	80,234	598	2,865	61.5	230,142	123,201	53	21	27.9	26	
Wabash.....	1932	2,497	494,467	505,988	10,446	14,327	61.8	830,512	272,804	248	134	35.0	49	
	1931	2,497	618,900	650,299	11,519	18,202	61.1	1,078,383	366,340	288	119	29.3	54	
Central Eastern Region:														
Baltimore & Ohio.....	1932	6,277	1,213,797	1,388,293	139,695	34,012	59.2	2,281,481	988,281	914	448	32.9	286	
	1931	6,285	1,449,552	1,724,254	201,139	43,484	59.2	2,965,472	1,309,281	1,078	301	21.8	260	
Big Four Lines.....	1932	2,790	565,605	587,532	16,037	16,480	59.7	1,084,638	486,747	227	220	49.2	23	
	1931	2,723	558,827	581,863	17,261	17,136	60.1	1,107,266	488,513	295	128	30.3	66	
Central of New Jersey.....	1932	692	149,683	161,311	21,256	4,307	55.6	300,012	135,076	119	59	33.2	46	
	1931	692	182,280	198,656	30,055	5,344	55.0	381,193	174,393	150	39	20.8	43	
Chicago & Eastern Ill.....	1932	939	164,759	164,759	2,165	3,615	62.2	235,846	102,715	92	69	43.0	45	
	1931	939	168,746	169,083	2,403	4,212	61.2	268,223	112,190	90	65	41.8	34	
Elgin, Joliet & Eastern.....	1932	447	70,737	73,337	2,724	1,675	56.4	135,731	66,475	83	7	7.8	28	
	1931	447	102,730	106,440	4,782	2,598	59.2	204,856	100,688	80	13	14.4	16	
Long Island.....	1932	400	35,679	37,000	13,017	363	54.4	26,668	10,539	41	5	10.4	10	
	1931	400	37,030	39,929	10,065	438	52.7	32,580	12,671	41	11	21.8	..	
Pennsylvania System.....	1932	10,544	2,512,027	2,829,954	276,534	82,188	61.0	5,443,622	2,334,402	2,192	357	14.0	989	
	1931	10,668	2,977,648	3,345,346	347,171	100,650	60.6	6,772,098	2,969,763	2,262	313	12.2	804	
Reading.....	1932	1,451	402,143	432,123	42,578	10,790	58.4	775,570	363,772	316	97	23.5	98	
	1931	1,446	509,343	549,834	49,446	13,486	56.8	1,004,086	478,289	322	66	17.1	57	
Pocahontas Region:														
Chesapeake & Ohio.....	1932	3,136	714,882	753,298	28,939	27,453	55.5	2,289,110	1,220,246	556	101	15.4	246	
	1931	3,116	899,599	950,411	35,561	31,417	53.9	2,646,804	1,385,050	616	72	10.4	233	
Norfolk & Western.....	1932	2,258	514,983	539,642	24,381	18,155	59.1	1,473,347	754,650	443	43	8.8	201	
	1931	2,226	598,915	653,070	34,591	21,155	58.5	1,741,777	891,109	446	46	9.4	158	
Southern Region:														
Atlantic Coast Line.....	1932	5,144	589,308	592,441	8,797	12,073	58.0	668,410	212,070	380	92	19.5	98	
	1931	5,162	681,485	688,306	10,084	15,902	56.6	910,133	296,110	390	85	17.9	78	
Central of Georgia.....	1932	1,900	177,224	179,318	2,675	3,981	68.3	210,860	75,519	100	45	31.2	3	
	1931	1,900	206,145	207,312	3,740	4,849	67.9	265,167	103,997	112	37	24.5	1	
Ill. Cent. (inc. Y. & M. V.).....	1932	6,670	1,179,746	1,188,568	19,350	27,871	60.0	1,881,437	743,713	740	183	19.9	61	
	1931	6,670	1,371,000	1,387,018	23,564	34,388	60.5	2,274,455	907,300	708	174	19.7	60	
Louisville & Nashville.....	1932	5,262	851,461	901,790	24,361	17,593	58.7	1,210,482	556,851	474	230	32.7	162	
	1931	5,268	1,090,835	1,145,172	30,124	22,364	57.7	1,551,087	704,251	524	178	25.3	133	
Seaboard Air Line.....	1932	4,443	477,885	486,317	5,768	10,891	60.0	638,953	200,306	259	32	11.0	35	
	1931	4,466	512,057	521,714	5,200	12,632	59.4	761,423	260,910	272	31	10.2	15	
Southern.....	1932	6,669	1,003,411	1,013,595	16,830	22,751	66.5	1,216,244	441,245	753	182	19.5	264	
	1931	6,675	1,125,139	1,140,067	21,746	26,462	64.8	1,475,163	571,569	786	190	19.4	216	
Northwestern Region:														
Chi. & North Western.....	1932	8,443	945,134	971,862	20,426	21,319	58.5	1,333,650	448,369	657	153	18.9	207	
	1931	8,459	1,010,646	1,066,270	28,427	26,234	61.9	1,556,609	590,257	723	145	16.7	199	
Chi. Gt. Western.....	1932	1,459	192,982	194,051	11,744	6,058	59.6	374,729	133,635	65	49	42.9	2	
	1931	1,459	213,717	213,721	10,944	7,125	58.4	434,610	155,108	113	16	12.1	11	
Chi., Milw., St. P. & Pac.....	1932	11,265	1,130,007	1,200,102	68,706	27,204	59.3	1,749,403	691,953	762	152	16.6	360	
	1931	11,300	1,194,716	1,260,082	58,643	32,102	60.9	1,991,546	790,730	785	150	16.0	326	
Chi., St. P., Minn. & Om.....	1932	1,714	209,496	222,784	11,049	3,818	62.6	229,670	91,824	142	30	17.2	64	
	1931	1,714	219,929	240,056	10,101	4,725	64.7	270,960	109,386	156	26	14.2	60	
Great Northern.....	1932	8,311	538,332	542,665	15,853	13,733	65.2	834,582	341,060	470	141	23.1	149	
	1931	8,342	601,008	608,476	19,817	19,109	66.7	1,158,539	519,577	482	137	22.1	131	
Minn., St. P. & S. St. M.....	1932	4,325	321,714	327,477	3,521	6,444	63.6	362,769	143,161	144	56	28.1	17	
	1931	4,356	325,759	332,526	4,129	8,231	66.2	459,124	190,589	170	71	29.7	44	
Northern Pacific.....	1													

Compared with February, 1931, for Roads with Annual Operating Revenues Above \$25,000,000

Region, road and year	Average number of freight cars on line			Per cent un-serv-ice-able	Gross ton-miles per train-hour, ex-cluding locomotives and tenders	Gross ton-miles per train-mile, ex-cluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Loco-motive-miles per locomotive-day
	Home	Foreign	Total										
New England Region:													
Boston & Albany.....1932	4,091	2,858	6,949	22.8	21,219	1,327	436	17.1	275	24.5	4,760	169	35.8
1931	3,577	3,295	6,872	8.8	20,578	1,363	493	19.6	381	30.2	6,428	173	45.9
Boston & Maine.....1932	11,284	6,933	18,217	12.0	22,113	1,654	600	19.4	302	22.9	2,669	119	39.2
1931	11,478	8,195	19,673	8.3	22,098	1,748	657	20.5	368	26.5	3,504	124	45.2
N. Y., New H. & Hart.....1932	16,238	10,843	27,081	6.8	24,427	1,735	618	19.3	255	20.7	3,359	118	41.9
1931	15,598	13,311	28,909	4.3	25,066	1,872	713	21.5	317	23.2	4,382	119	45.5
Great Lakes Region:													
Delaware & Hudson.....1932	12,095	2,738	14,833	3.5	25,932	1,952	878	28.7	415	24.2	7,252	129	37.1
1931	10,251	3,907	14,158	4.2	24,664	1,942	894	29.7	592	33.1	9,572	139	50.0
Del., Lack. & Western.....1932	19,323	3,542	22,865	7.5	25,356	1,840	725	22.7	349	23.5	7,998	158	50.0
1931	19,116	5,054	24,170	5.2	24,644	1,857	764	24.0	433	27.5	10,484	159	61.4
Erie (inc. Chi. & Erie).....1932	36,299	10,743	47,042	3.7	38,079	2,519	958	22.9	404	28.4	8,199	112	46.2
1931	35,847	13,550	49,397	3.5	38,149	2,616	1,014	23.8	498	34.3	10,626	112	57.9
Grand Trunk Western.....1932	4,707	8,608	13,315	9.5	25,376	1,432	498	20.7	242	19.3	3,152	114	44.1
1931	4,435	9,935	14,370	8.9	26,756	1,651	580	20.6	307	24.5	4,324	106	51.1
Lehigh Valley.....1932	22,627	4,536	27,163	11.9	30,322	1,791	721	24.3	327	21.2	6,604	148	41.1
1931	21,607	6,384	27,991	7.8	28,316	1,875	774	25.9	416	26.2	8,669	155	52.0
Michigan Central.....1932	25,703	16,850	42,553	7.0	31,667	1,723	557	18.9	162	14.5	3,268	127	57.0
1931	26,295	16,968	43,263	5.2	34,437	1,888	645	19.7	202	16.8	4,674	116	64.8
New York Central.....1932	81,740	68,092	149,832	15.4	34,184	2,228	881	24.4	275	18.8	6,608	107	42.0
1931	80,750	59,893	140,643	8.7	33,532	2,308	936	25.5	373	24.5	8,170	109	49.0
New York, Chi. & St. L.....1932	15,805	5,646	21,451	10.5	29,302	1,774	605	20.0	412	34.1	5,326	112	61.5
1931	15,692	8,056	23,748	6.3	30,328	1,921	672	20.9	467	37.9	6,674	107	70.1
Pere Marquette.....1932	13,380	3,892	17,272	3.5	24,842	1,491	573	24.6	323	22.1	2,531	102	57.6
1931	12,576	4,504	17,080	3.4	24,545	1,506	575	23.7	364	25.6	2,821	99	60.2
Pitts. & Lake Erie.....1932	19,151	6,033	25,184	20.5	41,250	3,364	1,838	44.1	122	4.8	13,029	101	20.9
1931	21,116	4,205	25,321	7.2	37,180	2,941	1,574	43.0	174	6.6	18,722	108	39.0
Wabash.....1932	19,366	7,385	26,751	4.6	32,817	1,680	552	19.0	352	29.9	3,768	120	46.7
1931	20,615	8,811	29,426	6.2	33,174	1,742	592	20.1	445	36.2	5,241	116	58.1
Central Eastern Region:													
Baltimore & Ohio.....1932	95,085	15,085	110,170	9.8	24,411	1,880	814	29.1	309	18.0	5,429	159	38.7
1931	93,026	20,887	113,913	6.5	25,483	2,046	903	30.1	410	23.0	7,440	153	49.9
Big Four Lines.....1932	23,376	18,310	41,686	11.1	32,126	1,918	861	29.5	403	22.9	6,015	116	46.6
1931	25,353	22,201	47,554	4.6	31,615	1,981	874	28.5	367	21.4	6,407	116	50.6
Central of New Jersey.....1932	18,354	5,890	24,244	18.0	26,328	2,004	902	31.4	192	11.0	6,729	152	35.4
1931	17,788	7,944	25,732	12.4	26,322	2,091	957	32.6	242	13.5	8,997	153	43.2
Chicago & Eastern Ill.....1932	6,046	2,077	8,123	14.0	24,374	1,431	623	28.4	436	24.7	3,772	139	35.9
1931	6,083	2,640	8,723	7.8	26,583	1,590	665	26.6	459	28.2	4,267	131	39.7
Elgin, Joliet & Eastern.....1932	9,529	3,825	13,354	8.0	16,234	1,919	940	39.7	172	7.7	5,127	130	29.1
1931	9,230	4,737	13,967	6.0	15,971	1,994	980	38.8	257	11.2	8,044	128	42.7
Long Island.....1932	780	4,080	4,860	1.2	5,981	747	295	29.0	75	4.7	908	366	37.4
1931	751	4,723	5,474	1.2	6,583	880	342	28.9	83	5.4	1,131	331	34.5
Pennsylvania System.....1932	248,796	43,170	291,966	6.6	30,919	2,167	929	28.4	276	15.9	7,634	136	42.0
1931	240,278	55,198	295,476	5.3	30,814	2,274	997	29.5	359	20.1	9,942	132	51.2
Reading.....1932	39,135	8,390	47,525	5.6	23,581	1,929	905	33.7	264	13.4	8,643	146	39.6
1931	35,929	10,148	46,077	3.6	23,934	1,971	939	35.5	371	18.4	11,810	150	55.1
Pocahontas Region:													
Chesapeake & Ohio.....1932	47,763	6,036	53,799	4.3	43,349	3,202	1,707	44.4	782	31.7	13,419	85	41.0
1931	48,411	7,880	56,291	2.5	39,735	2,942	1,540	44.1	879	37.0	15,873	91	51.2
Norfolk & Western.....1932	41,408	3,979	45,387	1.0	41,656	2,861	1,465	41.6	573	23.3	11,525	118	40.0
1931	39,825	5,863	45,688	.9	41,462	2,908	1,488	42.1	697	28.2	14,300	124	49.9
Southern Region:													
Atlantic Coast Line.....1932	28,852	7,617	36,469	6.6	20,272	1,134	360	17.6	201	19.7	1,421	116	43.9
1931	28,028	8,416	36,444	5.8	22,122	1,336	435	18.6	290	27.5	2,049	115	52.6
Central of Georgia.....1932	8,310	1,587	9,897	22.2	20,038	1,190	426	19.0	263	20.3	1,371	137	43.3
1931	7,339	2,192	9,531	11.3	19,945	1,286	504	21.4	390	26.8	1,955	141	50.6
Ill. Cent. (inc. Y. & M. V.).....1932	54,560	11,402	65,962	15.6	25,342	1,595	630	26.7	389	24.3	3,845	143	45.1
1931	52,291	14,669	66,960	7.3	25,663	1,659	662	26.4	484	30.3	4,858	141	57.1
Louisville & Nashville.....1932	53,125	5,872	58,997	16.2	21,425	1,422	654	31.7	325	17.5	3,649	154	45.4
1931	51,822	8,828	60,650	11.7	20,586	1,422	646	31.5	415	22.8	4,775	154	59.8
Seaboard Air Line.....1932	15,405	5,624	21,029	3.5	21,312	1,337	419	18.4	328	29.8	1,555	127	58.3
1931	17,428	6,261	23,689	4.4	21,290	1,487	510	20.7	393	32.0	2,087	130	62.1
Southern.....1932	57,551	8,392	65,943	14.0	19,973	1,212	440	19.4	231	17.9	2,281	157	38.0
1931	54,992	11,498	66,490	12.8	20,007	1,311	508	21.6	307	21.9	3,058	161	42.5
Northwestern Region:													
Chi. & North Western.....1932	45,301	17,544	62,845	6.7	20,373	1,411	474	21.0	246	20.0	1,831	146	42.3
1931	53,631	20,176	73,807	8.1	21,440	1,540	584	22.5	286	20.5	2,492	137	45.0
Chi. Gt. Western.....1932	5,190	3,323	8,513	10.1	31,808	1,942	692	22.1	541	41.2	3,158	142	61.9
1931	4,765	3,518	8,283	5.6	32,650	2,034	726	21.8	669	52.6	3,797	125	62.2
Chi., Milw., St. P. & Pac.....1932	64,479	11,942	76,421	3.2	23,335	1,548	612	25.4	312	20.7	2,118	137	47.9
1931	61,824	13,248	75,072	2.3	24,051	1,667	662	24.6	376	25.1	2,499	125	50.4
Chi., St. P., Minn. & Om.....1932	2,332	7,941	10,273	9.0	16,176	1,096	438	24.1	308	20.5	1,847	140	46.8
1931	2,939	8,332	11,271	6.5	17,419	1,232	497	23.2	347	23.1	2,279	125	49.2
Great Northern.....1932	45,131	7,079	52,210	6.3	22,467	1,550	634	24.8	225	13.9	1,415	155	31.5
1931	43,432	7,899	51,331	4.8	26,377	1,928	865	27.2	362	19.9	2,224	131	36.2
Minn., St. P. & S. St. M.....1932	20,468	2,501	22,969	4.2	16,714	1,128	445	22.2	216	15.3	1,141	127	57.1
1931	20,305	3,158	23,463	3.7	19,719	1,409	585	23.2	290	18.9	1,563	107	49.9
Northern Pacific.....1932	42,911	4,160	47,071	9.1	21,941	1,511	623	23.7	220	13.6	1,620	170	35.7
1931	43,025	4,635	47,660	9.4	25,941	1,794	781						

NEWS

(Continued from page 703)

Baltimore & Ohio executives, the announcement stated, regard air-conditioned sleeping cars as a major innovation in travel comfort. Their introduction follows two years of railroad air-conditioning development work in which the B. & O. pioneered in 1930 when the diner, Martha Washington, was placed in regular service between New York and Washington. Also, on this same run in May, 1931, the B. & O. established the Columbian, the first completely air-conditioned train.

The National Limited's equipment, together with that to be installed next month on the Capitol Limited, will bring the number of air-conditioned B. & O. cars to a total of 114. Those already equipped are considered sufficient for the trains necessary to maintain the regular daily schedules of the National Limited, both eastbound and westbound, as well as other B. & O. air-conditioned trains already in operation. The 114 air-conditioned cars will be of the following types: Three combination baggage and coach, seven individual seat coaches, two lounge cars, 10 parlor cars, nine Pullman club cars, seven Pullman observation cars, 46 Pullman sleepers and 30 diners.

A.R.E.A.—Correction

The dates chosen for the next convention of the American Railway Engineering Association are March 14, 15, and 16, 1933, instead of March 13, 14 and 15, as incorrectly stated on page 576 of the *Railway Age* of April 2.

Chicago Association of Commerce Seeks Repeal of Recapture Clause

A delegation of the Chicago Association of Commerce left for Washington on April 18 to urge upon Congress the repeal of the recapture clause of the Transportation Act. The deputation will appear before the House Committee on Interstate and Foreign Commerce and will confer with the Senate.

Grain Rate Case Reopened

The Interstate Commerce Commission began a hearing at Chicago on April 21 reopening the grain rate case in which the commission had ordered a downward revision of freight rates on August 1, last. This action is taken by order of the Supreme Court. Examiners Macklay and Hall on the first day heard L. E. Wettling, statistician, for the Western carriers, L. C. Fritch, vice-president of the Rock Island and J. A. Brown, assistant vice-president of the Missouri Pacific.

Club Meetings

The New England Railroad Club will hold its annual banquet and entertainment at the Copley-Plaza Hotel, Boston, on Tuesday evening, May 10.

The Southern & Southwestern Railway Club will hold its next meeting at the Ansley Hotel, Atlanta, Ga., on Thursday, May 19, at 10 a.m. C. M. Darden, superintendent of machinery, N. C. & St. L., will speak on fuel economy.

The Eastern Car Foremen's Association will hold its next meeting at the Copley-Plaza Hotel, Boston, Mass., on Monday evening, May 9. "Refrigeration" will be the subject of an address by Mr. Stewart of the Fruit Growers' Express Company.

Soo Line Cleared in Shop Removal Case

The Minnesota Railroad and Warehouse Commission, on April 13, dismissed its action against the Minneapolis, St. Paul & Sault Ste. Marie charging removal of coach cleaning facilities from St. Paul, to Minneapolis without the commission's approval. The 1931 act of the legislature forbids railroads to abandon or transfer shop or terminal facilities where 12 or more mechanics are employed except with the approval of the commission. The final opinion of the commission says that no more than 11 mechanics were at any time employed at the car cleaning shops which were moved, of whom 10 resided in St. Paul and, therefore, the law was not violated.

House Committee Considers Railroad Bills

The House committee on interstate and foreign commerce has been holding frequent meetings in executive session during the past two weeks on the bill to give the Interstate Commerce Commission jurisdiction over acquisitions of railroad control by holding companies and also on some minor details of the bill to revise Section 15a to repeal the recapture clause and the provisions for a fast return on railroad valuation. The principal features of the latter bill were agreed upon by the committee on April 7 but some of the language was left to be clarified before the bill was reported. On April 15 the committee also agreed in principle on one of the principal features of the holding company bill by deciding to eliminate the retroactive provision authorizing the commission to require holding companies or individuals to divest themselves of stock already acquired.

Popularity of Southern's Bargain Fares Continues

Experiments of the Southern with bargain fares continue to prove successful as its second special excursion offer, involving both reduced rail and Pullman rates, attracted sufficient patronage to fill six heavy extra trains which were operated between North and South Carolina and Central Virginia points and Washington, D. C. The first excursion which, as reported in the *Railway Age* of April 2, was conducted to Washington from North Carolina and Central Virginia points attracted 2,044 passengers and involved the operation of three extra trains.

Other contemplated passenger service innovations on the Southern, in addition to the planned acceleration of the Crescent Limited on April 24, as announced in the *Railway Age* of April 16, include the shortening of the running time of the Memphis Special between New York and Memphis, Tenn., and the re-arrangement of the schedule of the Aiken-

Augusta Special operating between New York and Aiken, S. C., and Augusta, Ga. These changes also become effective April 24 while on May 14 new equipment, including double bed room cars and private section cars, will be added to the Crescent Limited.

Briefs on Four-System Plan Filed with I. C. C.

(Continued from page 702)

the agreement of the four applicants and thus that degree of assurance of being actually brought about which is necessary, to the end that so far as possible this matter of consolidations may be clarified and the railroads enabled to prepare themselves for the time when the present emergency shall cease to exist."

After discussing the policy of the transportation act the brief says that the provision for recapture as a means of adjusting the earning power as between the weaker and the stronger systems, pending consolidation, has obviously failed of its purpose and it is therefore a matter of great importance that consolidations be made effective with the least practicable delay. "Much remains to be done. The laws and regulations must be adapted to ever-changing conditions; the various agencies of transportation must be co-ordinated and placed under similar control and regulation; where the law is weak or inadequate, it must be strengthened."

These three applicants take the position that the provisions of the law do not in any way authorize the commission to make its allocations in a plan subject to conditions such as have been asked by some of the protestants. For this reason the New York Central did not join in the brief but filed a separate one asking that any conditions which may be sought to be imposed upon the allocations to its system which might impair the integrity of its proposed system should be considered and disposed of in this proceeding. The Central also desires to abstain from participation in the controversy as to the holdings of the Pennsylvania and the Pennroad Corporation of securities of New England railroads.

Approximately thirty briefs have been filed by participants in the proceedings. Opposition to the plan as a whole was expressed in a brief filed by Donald R. Richberg on behalf of the Railway Labor Executives' Association. He said he did not desire to bring in objections at an inappropriate time but that "we have been unable to escape from the fear that, in applying merely for a modification of the commission's plan, the applicant railroads are at the same time seeking to accomplish the further object of committing the commission to such an implied approval, at some subsequent time, of their proposed consolidations of the properties involved, that the objections to such consolidations at that future time could hardly be considered by the commission with an open mind." Correspondence printed with the brief showed that Chairman Porter had assured Mr. Richberg that, whatever the commission's decision as to modification of the plan may be, no actual unifications

Continued on Next Left Hand Page

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can take place until the regular procedure of the commission has been complied with, and that full opportunity will be given all interests to be heard on applications for authority for actual unification.

Freight Traffic in February

Freight traffic moved by the Class I railroads in February amounted to 21,731,991,000 net ton-miles, according to reports compiled by the Bureau of Railway Economics. Compared with February, 1931, this was a reduction of 19.8 per cent, and it was a reduction of 36.7 per cent under February, 1930. The Eastern district reports a reduction of 18.8 per cent compared with the same month in 1931; the Southern a decrease of 22.4 per cent, and the Western 20.3 per cent.

The total volume for the first two months of 1932 was 44,587,198,000 net ton-miles, a reduction of 22.3 per cent under that of the corresponding period in 1931, and of 37.3 per cent under the same period in 1930. The Eastern district for the two months reports a reduction of 21.5 per cent compared with the same period in 1931, the Southern district 24.4 per cent, and the Western 22.8 per cent.

Favors C. N. R. Acquisition by C. P. R.

Advocating the purchase of the Canadian National by the Canadian Pacific Follin H. Pickel, a prominent Conservative member from the Eastern Townships of Quebec province, speaking during the Budget debate in the House of Commons at Ottawa last week said:

"I do not understand why the people of Canada persist in trying to make themselves believe this is a solvent enterprise. It should go into the hands of a receiver and be disposed of. It is no compliment to the intelligence of the people of this country to try to bolster up that railway; if it were in my power to do so, I think it would be advisable to open up negotiations with a view to disposing of it. The only visible purchaser or receiver that I know of is the Canadian Pacific Railway Company. I have none of its stock, unfortunately; I hold no brief for that railroad, but as all Canadians are, I am proud of it. We have a bankrupt railroad and if we continue we are going to bankrupt the Canadian Pacific."

R. C. Fulbright Discusses Pending Transport Bills

Congress has reached the point where it is disposed to revamp the nation's transport legislation although it is likely that the legislators will deal with the problem bit by bit rather than by making, with one enactment, any sweeping changes in the Interstate Commerce Act, R. C. Fulbright, chairman of the legislative committee of the National Industrial Traffic League, said, in an address before the Traffic Club of New York on April 14.

Mr. Fulbright's talk was in the main a resume of the nature and status of the more important of some 200 bills relating to transportation, which have been introduced in the present session of Congress. He suggested in the course of his

discussion that Congress is seeking light on the great transport problems of the day and, in this connection, he urged parties in interest, both shippers and transport agencies, to confine themselves to facts and avoid propaganda in their presentations before Congressional committees.

Chicago Traffic Club Resolves for Lower Taxes

The Traffic Club of Chicago, at a special meeting on April 14, adopted a resolution calling for a re-examination of the whole plan for raising revenue for public purposes and seeking a reduction of 25 per cent in public expenditures. The resolution was adopted following an address made by George G. Tunell, commissioner of taxes of the Atchison, Topeka & Santa Fe, on public expenditures and taxation. The resolution is as follows:

The Traffic Club of Chicago recognizes that there can be no substantial basis for permanent prosperity until the burden of taxation now resting upon the American people is lightened. That burden as it stands today is not only too heavy to be borne, but the load is unevenly distributed. Our taxing system abounds in duplications and inequalities. It has grown up in haphazard fashion, without regard to capacity to pay, or the effect of a particular system upon business. Our whole plan of raising revenue for public purposes is in need of re-examination by competent, disinterested experts.

Such a reform, however, while important, is not the principal thing. Public expenditures must be reduced, and that immediately. A reduction of 25 per cent would not be excessive. It would represent no greater deflation than that to which private industry has been subjected. In these unusual times, every activity not absolutely essential to good government must be curtailed or discontinued. We realize that such a reduction in expense calls for courage, but courage is one of the first qualities of statesmanship.

Consider Scrap Proposals

The Committee on Scrap Iron of the American Railway Association has accepted recommendations proposed by the Institute of Scrap Iron and Steel to change certain terms of award and sale of railroad scrap and at the next annual convention will recommend their incorporation in the scrap contracts of the individual railroads.

Some of the proposals accepted by the A.R.A. committee require shipments to be made within 30 days after the receipt of shipping instructions which shall be issued within 10 days after notice of the award has been received. Claims for apparent shortages of 1,000 lb. or over will be considered, provided the necessary documents are presented within 30 days. Net ton basis shall be uniform for all railroad scrap lists. Where more than one car is offered for sale, the offer shall be in tonnages instead of in cars. All cars shall be light-weighted, uncoupled. Awards shall be made within 48 hours after the time set for closing the bids and, wherever possible, all scrap shall be loaded to minimum carload switching weights. Several changes proposed in the A.R.A. scrap classification were also accepted.

The Pennsylvania has announced that it will immediately put into effect one of the proposed changes, without waiting for the action of the A.R.A. convention. Heretofore, the Pennsylvania stipulated that claims for shortages must total \$10 or more before they would be investi-

gated, but beginning with the April list any claims for shortages of 1,000 lb. and over will be investigated.

Grain Via Maritime Ports

More talk about forcing more Canadian grain export traffic through Canadian channels was heard in the House of Commons last week during discussion of Trade and Commerce estimates. One Conservative member from the Maritime provinces, Col. Thomas Cantley, of Pictou, N. S., went so far as to suggest that the only effective way to make more grain flow out through the ports of Halifax and St. John in the winter season would be to prohibit it absolutely from going out of any other national ports.

The debate arose when a Nova Scotia Liberal, William Duff, asked the Minister of Trade and Commerce, Hon. Henry H. Stevens, what action this Government would take in view of the appeal of the Halifax Harbor Commission, through its chairman, Col. E. C. Phinney, last year to the Federal Cabinet from a decision of the Board of Railway Commissioners which denied to Halifax and St. John the grain freight rate it allowed to the port of Quebec City of 19½ cents from Armstrong, in northwestern Ontario. Mr. Stevens promised that the Cabinet will consider this appeal at an early date and said he hoped there would be a solution of this problem before the next session of Parliament. He pointed out, though, that those who were clamoring were apt to forget that the owner or purchaser of the grain in Winnipeg had ultimate and final control of the direction by which that grain moved to seaboard. A number of the Maritime members even frankly admitted that putting in the Quebec rate to the Maritime ports would probably not result in much increased grain movement.

Telegraph Section at Chicago, June 7-9

The fifteenth annual meeting of the Telegraph and Telephone Section of the American Railway Association, will be held at the Stevens Hotel, Chicago, on Tuesday, Wednesday and Thursday, June 7, 8 and 9 according to a recent announcement of J. L. Niesse, chairman, and W. A. Fairbanks, secretary. The principal reports to be presented are the following:

Committee No. 1, Construction and Maintenance, outside plant. Sub-Committee A, pole line and underground construction; joint and concrete poles. Sub-Committee B; terminal, aerial wire and cable construction; cable splicing; transpositions. Sub-Committee C, outside plant maintenance; wire crossings; electrolysis. Sub-Committee D; material, tools and equipment.

Committee No. 2, inside plant. Sub-Committees G, H, J, and K.

Committee No. 3, Economics; Committee No. 4, electrical protection; Committee No. 5, communication development; Committee No. 6, message traffic.

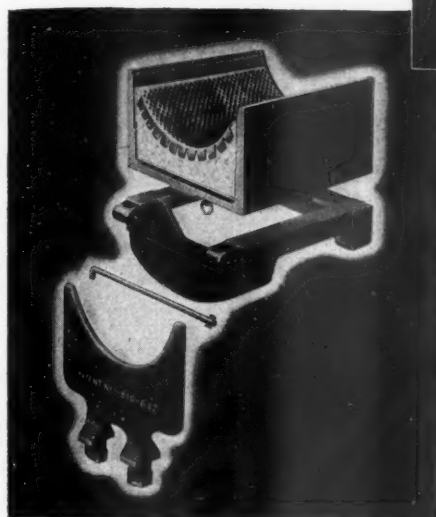
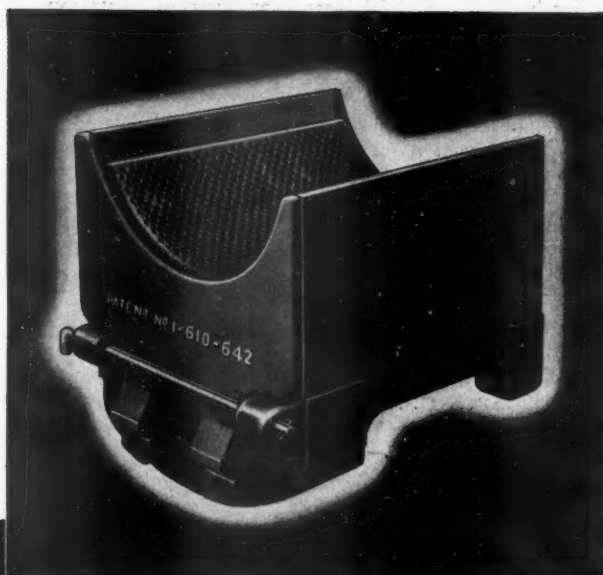
Committee No. 10, education and training of communication employees.

Committee No. 11, communication transmission.

Committee No. 12, radio and wire carrier systems.

Committee No. 13, accidents, fire prevention and first aid for communication employees.

H. R. Huntley, American Telephone & Telegraph Company, will give a demonstration on noise induction, and other speakers in this field will be W. H. Har-



LOCOMOTIVE LUBRICATION Again Improved

In the improved Franklin Driving Box Lubricator and Spreader, another advance has been taken in the lubrication of the big engine.

Now the whole lubricator can be removed, re-packed and replaced as a unit with the follower spring held from interfering with the re-application of the packed cellar. The follower plate can be removed and cleaned without disturbing the spreader.

A cast steel spreader prevents the driving box jaws from closing in and gripping the cellar. The spreader also protects the cellar when the locomotive is being lifted.

All perforated and follower plates for a given size of journal are interchangeable, regardless of design of box. This reduces errors and the number of plates that must be stocked.

On modern locomotives, use a modern driving box lubricator. Because it avoids hot boxes and reduces the stock of replacement parts and maintenance, apply the improved Franklin Driving Box Lubricator and Spreader as locomotives are shopped. And use only Franklin parts for repairs and save labor. After all, the labor cost is the big expense item.

THE FRANKLIN SLEEVE JOINT

Close coupling reduces
overhang and wear and
overcomes the tendency
for connection to unscrew



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

rison, H. L. Huber and I. C. Forshee (Penn. R. R.)

H. A. Affel, American Telephone & Telegraph Company, will speak on telephone repeaters, and F. A. Cowan on the application of terminal repeaters in connection with tie trunks.

G. T. Stanton will speak on noise and acoustics in railroad offices.

Copies of the reports will be distributed to members early in May.

C. A. Gill Describes Russian Situation at N. Y. Railroad Club

Charles A. Gill, former superintendent of motive power, Eastern lines, Baltimore & Ohio, who has recently completed a year's service as chief consulting mechanical engineer of the Russian railways, with headquarters at Moscow, U. S. S. R., addressed the regular monthly meeting of the New York Railroad Club on April

15. His subject was "The Russian Situation as Observed by an American Railroad Man."

Mr. Gill, who has been on a leave of absence from his duties with the B. & O., presented comprehensive figures on the industrial, commercial, educational and social development of Russia under the five-year plan, adding his own observations as to living conditions and results achieved by the program of industrializa-

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled from the Monthly Reports of Revenues and Expenses for 157 Steam Railways, Including 17 Switching and Terminal Companies.

FOR THE MONTH OF FEBRUARY, 1932 AND 1931

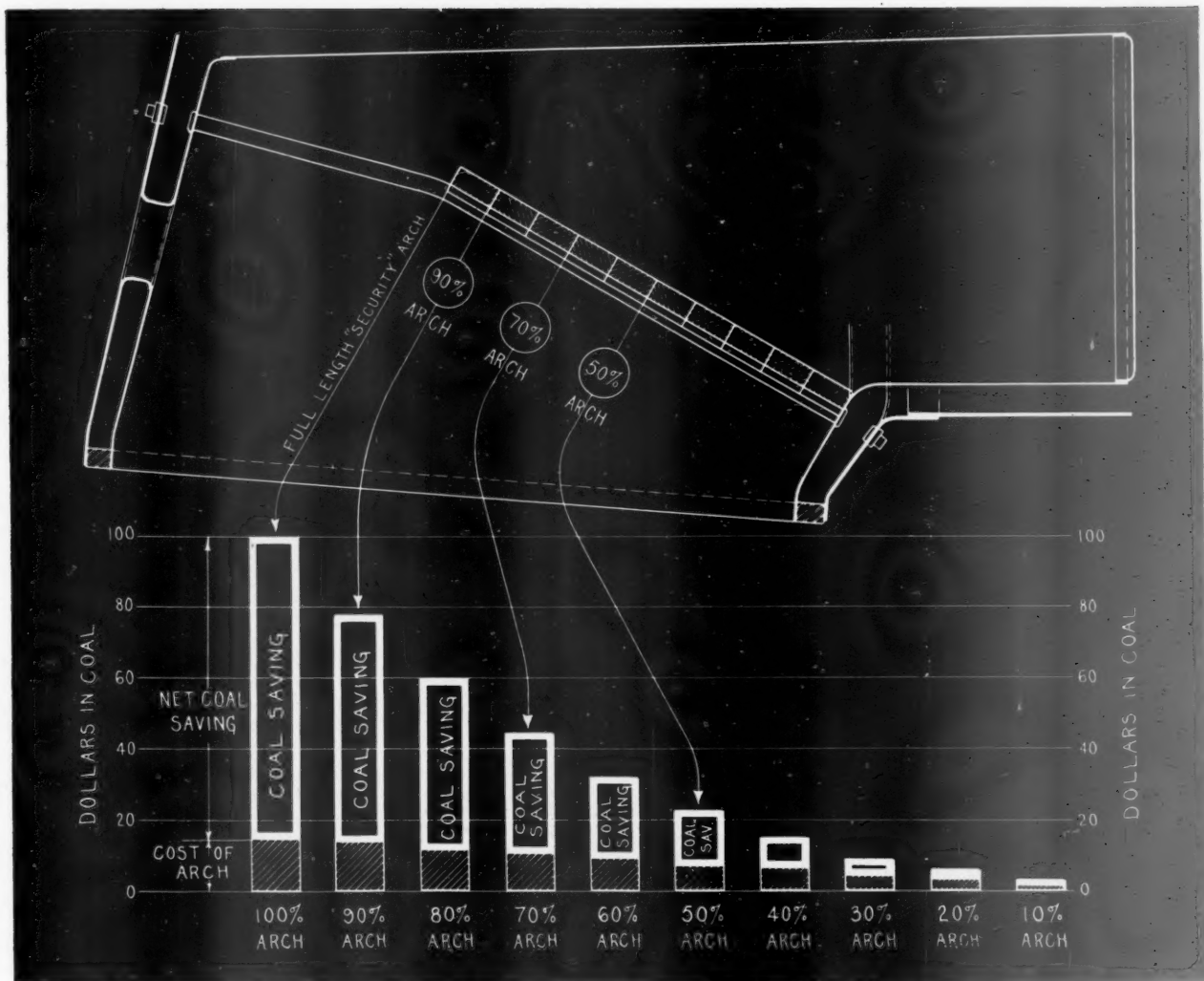
Item	United States		Eastern District		Southern District		Western District	
	1932	1931	1932	1931	1932	1931	1932	1931
Average number of miles operated	241,997.35	242,180.50	60,123.24	60,210.74	46,125.11	46,090.49	135,749.00	135,879.27
Revenues:								
Freight	\$205,366,455	\$257,546,818	\$90,884,224	\$112,647,766	\$40,902,572	\$49,853,520	\$73,579,659	\$95,045,532
Passenger	33,882,258	46,450,615	19,944,715	25,633,267	4,405,065	7,094,743	9,532,478	13,722,605
Mail	7,928,456	8,356,489	3,086,233	3,155,430	1,337,393	1,429,055	3,504,830	3,772,004
Express	4,423,499	5,537,311	1,940,920	2,110,864	945,658	1,122,012	1,536,921	2,304,435
All other transportation	9,474,054	11,236,648	5,582,013	6,454,308	677,806	922,426	3,214,235	3,859,914
Incidental	5,682,550	6,937,934	3,216,136	3,771,310	741,606	1,048,227	1,724,808	2,118,397
Joint facility—Cr.	775,647	899,291	255,746	299,697	133,710	156,339	386,191	443,255
Joint facility—Dr.	260,633	238,198	66,527	76,483	19,512	24,214	174,594	137,501
Railway operating revenues	267,272,286	336,726,908	124,843,460	153,996,159	49,124,298	61,602,108	93,304,528	121,128,641
Expenses:								
Maintenance of way and structures	28,870,131	41,391,806	12,602,627	18,079,545	6,108,998	8,896,777	10,158,506	14,415,484
Maintenance of equipment	55,055,851	71,942,004	24,896,197	33,503,062	10,152,665	12,999,628	20,006,989	25,439,314
Traffic	8,495,730	9,807,579	3,307,563	3,807,110	1,584,937	1,857,559	3,603,230	4,142,910
Transportation	102,742,126	130,452,409	48,811,854	62,395,429	16,577,720	21,701,413	37,352,552	46,355,567
Miscellaneous operations	2,602,223	3,547,507	1,303,699	1,707,436	338,947	514,746	959,577	1,325,325
General	13,596,496	15,503,325	6,026,642	6,795,111	2,350,977	2,640,437	5,218,877	6,067,777
Transportation for investment—Cr.	253,284	502,263	94,765	107,285	36,578	33,990	121,941	360,988
Railway operating expenses	211,109,273	272,142,367	96,853,817	126,180,408	37,077,666	48,576,570	77,177,790	97,385,389
Net revenue from railway operations	56,163,013	64,584,541	27,989,643	27,815,751	12,046,632	13,025,538	16,126,738	23,743,252
Railway tax accruals	24,668,719	26,628,338	9,964,040	10,066,123	4,680,884	5,398,086	10,023,795	11,164,129
Uncollectible ry. revenues	58,101	77,716	14,898	44,095	8,464	8,340	34,739	25,281
Railway operating income	31,436,193	37,878,487	18,010,705	17,705,533	7,357,284	7,619,112	6,068,204	12,553,842
Equipment rents—Dr. balance	6,917,432	7,784,454	3,629,175	4,043,289	471,828	527,863	2,816,429	3,213,302
Joint facility rent—Dr. balance	2,476,147	2,379,498	1,268,559	1,243,721	272,935	283,543	934,653	852,234
Net railway operating income	22,042,614	27,714,535	13,112,971	12,418,523	6,612,521	6,807,706	2,317,122	8,488,306
Ratio of expenses to revenues (per cent)	78.99	80.82	77.58	81.94	75.48	78.86	82.72	80.40

FOR TWO MONTHS ENDED WITH FEBRUARY, 1932 AND 1931

Item	United States		Eastern District		Southern District		Western District	
	1932	1931	1932	1931	1932	1931	1932	1931
Average number of miles operated	242,027.90	242,177.92	60,120.96	60,212.93	46,135.26	46,098.76	135,771.68	135,866.23
Revenues:								
Freight	\$413,806,143	\$534,569,815	\$182,596,021	\$231,660,094	\$82,389,119	\$104,503,099	\$148,821,003	\$198,406,622
Passenger	71,905,195	99,794,285	42,290,753	55,544,224	9,156,357	14,709,000	20,458,085	29,541,061
Mail	16,278,541	17,358,321	6,353,241	6,584,413	2,774,842	2,976,223	7,150,458	7,797,685
Express	8,197,077	11,496,777	3,562,770	4,371,659	1,732,792	2,141,209	2,901,515	4,983,909
All other transportation	19,187,651	23,206,403	11,273,728	13,378,694	1,335,349	1,811,903	6,578,574	8,015,806
Incidental	12,107,642	14,916,900	6,863,480	8,107,397	1,591,922	2,230,206	3,652,240	4,579,297
Joint facility—Cr.	1,621,998	1,888,494	532,900	618,468	266,970	312,512	822,128	957,514
Joint facility—Dr.	517,442	519,258	132,351	152,055	39,116	49,803	345,975	317,400
Railway operating revenues	542,586,805	702,711,737	253,340,542	320,112,894	99,208,235	128,634,349	190,038,028	253,964,494
Expenses:								
Maintenance of way and structures	59,199,737	85,093,146	25,769,151	37,410,606	12,835,213	18,038,784	20,595,373	29,643,756
Maintenance of equipment	113,113,804	149,187,835	51,328,521	69,506,295	20,805,404	26,895,167	40,979,879	52,786,373
Traffic	17,341,519	19,969,279	6,650,906	7,608,275	3,310,828	3,913,827	7,379,785	8,447,177
Transportation	217,769,640	273,855,016	103,004,904	130,016,464	35,337,931	45,613,269	79,426,805	98,225,283
Miscellaneous operations	5,539,818	7,513,519	2,780,360	3,637,616	729,321	1,051,778	2,030,137	2,824,125
General	28,219,140	31,643,829	12,488,603	13,803,589	4,834,106	5,459,404	10,896,431	12,380,836
Transportation for investment—Cr.	562,651	1,006,159	186,214	188,737	54,480	81,186	321,957	736,236
Railway operating expenses	440,621,007	566,256,465	201,836,231	261,794,108	77,798,323	100,891,043	160,986,453	203,571,314
Net revenue from railway operations	101,965,798	136,455,272	51,504,311	58,318,786	21,409,912	27,743,306	29,051,575	50,393,180
Railway tax accruals	49,081,520	53,552,164	19,769,862	20,445,430	9,312,759	10,833,930	19,998,899	22,272,804
Uncollectible ry. revenues	137,218	146,589	46,684	73,434	19,390	18,916	71,144	54,239
Railway operating income	52,747,060	82,756,519	31,687,765	37,799,922	12,077,763	16,890,460	8,981,532	28,066,137
Equipment rents—Dr. balance	13,946,487	15,785,712	7,272,273	8,235,563	972,519	992,129	5,701,695	6,558,020
Joint facility rent—Dr. balance	5,061,399	4,915,835	2,693,175	2,683,155	541,851	527,035	1,826,373	1,705,645
Net railway operating income	33,739,174	62,054,972	21,722,317	26,881,204	10,563,393	15,371,296	1,453,464	19,802,472
Ratio of expenses to revenues (per cent)	81.21	80.58	79.67	81.78	78.42	78.43	84.71	80.16

^a Includes \$5,278,893 increase from "Ex Parte 103." ^b Includes \$9,372,637 increase from "Ex Parte 103." Compiled by Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

Continued on Next Left Hand Page



THE EFFECT OF ABBREVIATED ARCHES ON FUEL SAVING

When A Dollar "Saved" Is Ten Dollars Wasted

LONG Arches are essential to fuel economy in these days of intensive operation and stoker firing.

Cutting out the last course of brick may save the mechanical department from specifying a few brick but its absence is quickly reflected in fuel performance.

Each dollar thus "saved" in Arch brick means wasting ten dollars of fuel.

For over 20 years the fuel economy of the Security Sectional Arch has been proved repeatedly. You need its full benefits more today than ever before.

THERE'S MORE TO SECURITY
ARCHES THAN JUST BRICK

**HARBISON-WALKER
REFRACTORIES CO.**
Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
Locomotive Combustion
Specialists

tion! That program in itself, however, is only a means to an end, its chief purpose, as he observed it, being the improvement of the material and cultural condition of the workers. Mr. Gill also called attention to the fact that, although the Soviet government has already purchased in this country goods valued at more than \$600,000,000, buying is now declining in favor of England, France and Germany, where the Russians are able to obtain better credit facilities.

Among the invited guests at the meeting, which was one of the largest on record, were Colonel Hugh L. Cooper, consulting engineer to the Soviet government on the design and construction of the 750,000-hp. Dnieprostroy hydro-electric and navigation project, who is recognized as a leading authority on Soviet Russia, and A. G. Pack, head of the Bureau of Locomotive Inspection, Interstate Commerce Commission.

C. & O. Booklet Describes New Air-Conditioned Train

The Chesapeake & Ohio has issued an illustrated booklet to commemorate the inauguration of its new completely air-conditioned sleeping-car train—the George Washington—which is to be operated between Washington, D. C., Cincinnati, Ohio, and Louisville, Ky. Opening pages are devoted to an account of George Washington's interest in transportation problems of his day, with special reference to his work as the first president of the James River Company which was organized to develop roads and canals.

"The route and properties of the James River Company," the booklet says, "are now the James River division of the Chesapeake & Ohio.... And so we feel we have the right to say that George Washington was one of our founders, and that the Chesapeake & Ohio System is carrying on his work of providing transportation and communication between the East and West. In creating the George Washington, we have done more than name a train. We have carried forward an idea."

Remaining pages are devoted to a series of descriptions of individual cars which are to be assigned to the completely air-conditioned train, each description being appropriately illustrated in color.

Defeat Canadian Bill Aimed to Control Division Changes

By a vote of 14 to 10, the railway committee of the House of Commons at Ottawa last week defeated the bill which would amend the Railway Act in respect to change of division points, or routing of trains.

The amending bill, which was sponsored by George B. Nicholson (Cons., East Algoma), would forbid the railway companies to make any changes in the routing of traffic or run crews through divisional points where their homes are established, without compensating employees for financial loss. It would also prohibit such changes without thirty days' notice to employees.

For the Canadian National Railways, E. E. Fairweather objected to any interference with the management of the road especially at an acute period such as the present. If the railways were in a prosperous condition, such an amending bill might be regarded differently, but they were not. Other forms of competitive transportation were developing without such regulative control, and he thought the railways should not be fettered.

The legislation was discriminatory, in the opinion of E. P. Flintoft, appearing for the Canadian Pacific. Business organizations other than the railways were not required by law to pay compensation in the event of staff transfers. He mentioned, also, that a transportation commission was now engaged in preparing a report on the whole railway situation, and such proposed amendments might well stand for the present.

The Railway Commission did not favor legislation which tended to take away from the railways the internal management or operation of the roads, said A. G. Blair, counsel for the commission. The functions of the board were regulative. It was concerned in trying to carry out the provisions of the act.

Equipment and Supplies

FREIGHT CARS

THE UNION TANK CAR COMPANY is inquiring for from five to ten tank cars of 11,000 gal. capacity.

IRON & STEEL

THE READING COMPANY is inquiring for the steel for a bridge at Muncy, Pa.

MISCELLANEOUS

Employees Return to Work

Approximately 1,000 track employees have returned to work on the Chicago & North Western and 300 on the Alton to engage in spring maintenance operations. This is the third group of employees to be re-employed on the North Western within the last three months. On February 1, approximately 500 motive power employees were re-engaged, while on March 1, 300 car employees were re-instated.

THE ROYAL SCOT, the London, Midland & Scottish famous train between London and Edinburgh, is to be brought to the United States for the Century of Progress exhibition, which will open at Chicago in June, 1933. According to present plans, the train will be sent to Mobile, Ala., a few weeks before the fair opens and will make an exhibition tour on its way to Chicago.

Supply Trade

The Sullivan Machinery Company has moved its Knoxville, Tenn., branch office from 623 Market street to Suite 803, Medical Arts building.

E. H. Batchelder, Jr., has been appointed railroad sales manager with headquarters at 608 South Dearborn street, Chicago, of The Insulite Company, Minneapolis, Minn.

William H. Woodin, president of the American Car & Foundry Company, New York, has been elected president also of the J. G. Brill Company, Philadelphia, Pa., to succeed Samuel M. Curwen, deceased.

George A. Nichols has been appointed New York district manager with headquarters in the Chrysler building, New York City, of The Kron Company, formerly The American Kron Scale Company, Bridgeport, Conn.

H. H. Timken, chairman of the board of the Timken Roller Bearing Company has been elected also president of the company succeeding M. T. Lothrop, resigned. F. J. Griffiths, president of the Timken Steel & Tube Company has been elected a director succeeding Mr. Lothrop. The other directors were re-elected.

At the board of directors' meeting of the United States Steel Corporation, New York, on April 19, William A. Irwin was formally elected president of the corporation to succeed James A. Farrell, retired. This change was announced in the *Railway Age* of March 12 and March 19. Mr. Irwin was also elected a director.

The Standard Liquid Asphalt Corporation has been organized with offices at 230 North Canal street, Chicago. The officers are: President, Lewis P. Mercer, formerly resident sales manager of the Parkesburg Iron Company, with headquarters at Chicago; vice-president and treasurer, Charles D. Rudolph, formerly with Procter & Gamble Company; and secretary, Clark S. Reed, an attorney. The company's plant is located at Maywood, Ill.

Effective April 1, a change was made in the organization of the transportation and government department of the Johns-Manville Sales Corporation, the operation of which department is supervised by George A. Nicol, Jr., vice-president, with headquarters at New York. The change involved the establishment of three regions in the United States: Eastern, Western and Pacific. The eastern region embraces the eastern and central divisions; the western region comprises the western and south-western divisions, and the Pacific region covers the present territory of the Pacific division. There has been no change in the Canadian set-up. Each of the three regions will be in charge of a general sales manager as follows: Eastern region, R. P. Townsend, New York; western region, J. H. Trent, Chicago;

Pacific region, **W. J. Hennessy**, San Francisco, Cal. In the divisional activities, **J. D. Johnson**, with headquarters at Cleveland, Ohio, will assist **R. P. Townsend**. **C. S. Clingman** will assist **J. H. Trent** as manager of the southwestern division, western region, and **T. O'Leary** as manager of the western division, Chicago, will assist Mr. Trent in that capacity.

Changes in Westinghouse Air Brake Company and Union Switch & Signal Company

Co-ordination of the managerial staffs of the Westinghouse Air Brake Company and the Union Switch & Signal Company has been effected by the board of directors to accomplish greater economy and efficiency in management and productive capacities of the two properties. To effect this co-ordination of management **A. L. Humphrey**, president of the Air Brake Company and chairman of the board of the Signal Company, was elected executive director of both organizations. **Charles A. Rowan**, executive vice-president and a member of the board of the Air Brake Company, was elected president of that company and vice-chairman of the board of the Signal Company. **George A. Blackmore**, president and general manager of the Signal Company, was elected also a director and vice-president and general manager of the Air Brake Company. **S. G. Down**, vice-president of the Air Brake Company, was elected also a director of the Signal Company. The changes make the members of the two boards identical.

Mr. Humphrey was born in Buffalo, N. Y., on June 12, 1860 and at the age of 14 entered business. At the age of 22 he organized a general machine shop and foundry in Seattle, which afterwards became the Moran Iron Works. Later he

ice on the Colorado & Southern in 1899, and in 1903, became superintendent of motive power of the Chicago & Alton. Later in the same year he was appointed western manager of the Westinghouse Air Brake Company at Chicago, and in 1905, was promoted to general manager of the air brake works at Pittsburgh. He was elected a director of the company in 1909, at which time he was also given the dual position of vice-president and general manager. When the Union Switch & Signal Company was taken over by the Air Brake Company in 1916, Mr. Humphrey was also elected president of the Signal Company. In April, 1919, Mr. Humphrey was elected president of the Air Brake Company, and later also chairman of the board of the Signal Company, which positions he has held until his recent election as executive director of both companies.

Mr. Rowan has been connected with the Westinghouse interests ever since he entered upon his business career, his first connection being with the East Pittsburgh Improvement Company, a Westinghouse organization which owned the land now occupied by the various Westing-

and in April, 1911, became eastern manager in charge of the New York, Montreal and Atlanta offices. In 1915, he was appointed general sales manager with headquarters at Swissvale, and in January, 1917, he was elected vice-president. On June 13, 1922, Mr. Blackmore was elected first vice-president and general manager and in April, 1929, he was elected president and general manager,



George A. Blackmore

which position he will hold with that of director and vice-president and general manager of the Westinghouse Air Brake Company.

Mr. Down was born on January 1, 1876, and entered railway service in the motive power department of the Michigan Central in 1893. In 1897 he resigned to engage in prospecting in Alaska, and three years later returned to the Michigan Central as general air-brake inspector. In 1902, he entered the employ of the Westinghouse Air Brake Company as an instructor, which posi-



Charles A. Rowan

house industrial establishments in the Turtle Creek Valley. He began his connection with the Air Brake Company in 1903 as assistant auditor. From that position he has successively advanced to auditor in 1910, controller in 1916, vice-president and controller in 1919 and president of the Westinghouse International Brake & Signal Company in 1927, when he was transferred to Brussels, Belgium. He returned to this country in 1930 to become executive vice-president. He was elected a member of the board of directors of the Westinghouse Air Brake Company in 1929 and now becomes president of that company and vice-chairman of the board of the Union Switch & Signal Company.

Mr. Blackmore was born at Wilkesburg, Pa., in 1884, and entered the service of the Union Switch & Signal Company in July, 1896 as an office boy. In 1901, he was made chief clerk in the engineering and estimating department at Swissvale, Pa., and three years later was transferred to New York. In March, 1909, he was appointed assistant eastern manager with headquarters at New York,



S. G. Down

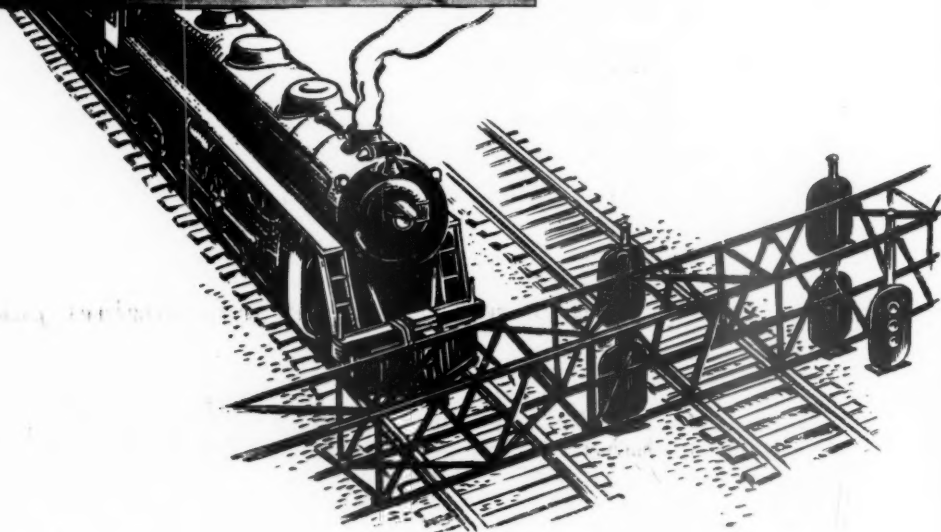
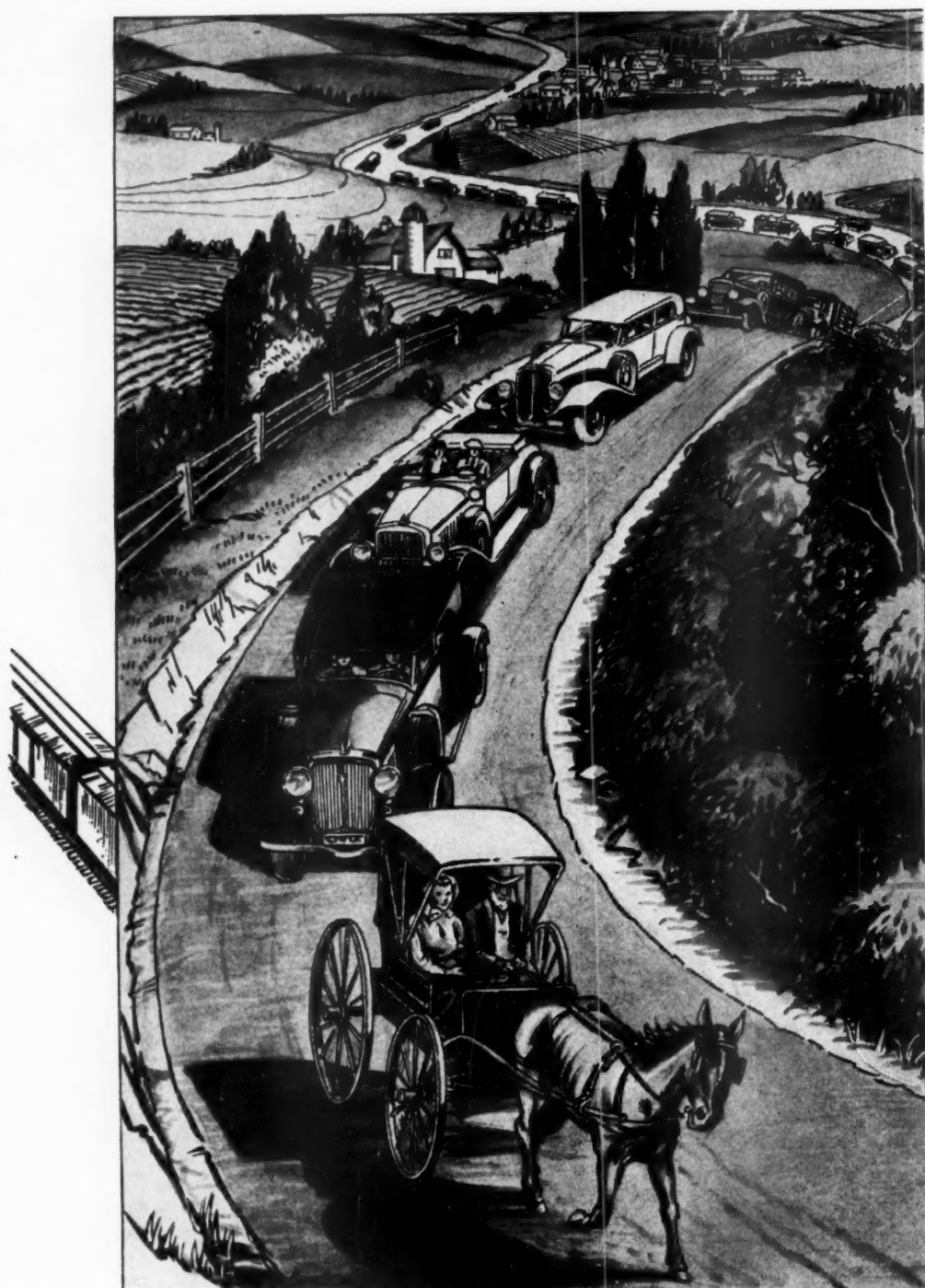
tion he held until 1906, when he was appointed mechanical expert. A year later he was made district engineer and in 1915 he was promoted to assistant western manager. From 1919 to 1921, he was Pacific district manager and then until 1923, general sales manager. In the latter year, he was elected vice-president, and has now been elected also a director of the Union Switch & Signal Company.



A. L. Humphrey

became division construction foreman on the Mojave division of the Central Pacific, and then master mechanic. Later he became superintendent of motive power of the Colorado Midland. While in Colorado he took an active part in politics and was twice elected to the Colorado House of Representatives, serving as speaker of the house during his second term. He returned to railroad serv-

Let's



Not *Get Back to the* Horse and Buggy Days

THE Old Horse and Buggy—in his day, the horse was transportation's prime mover—and he did his job well. Within his limitations as to both load and speed he could do that same job today just as efficiently as he ever did it.

But times change. Traffic has outgrown the capacity, speed, and cost of operation of the horse. And when he appears today on our main highways, congestion always follows. The hundred or more horsepower of your modern auto does not mean much if you happen to be behind "Old Dobbin" on a narrow road.

Thousands of locomotives in storage today classed as available for service are, comparatively speaking, like the old horse and buggy. They, too, within their capacity as to load and speed, and cost of operation, are just as efficient as they ever were. But railroading has changed materially since they were new.

As soon as traffic picks up, and many of these older locomotives are resurrected from white lead and put into service, will not the modern engine be just as helpless as the high-powered auto behind the out-of-date horse and buggy?

And how will the operating sheets look?

And how about profits?

Today, and tomorrow, with its more keen competition, economically fast operation is and will be more and more imperative. And the Older Locomotives like the Horse and Buggy must go, if commensurate net earnings are to return.

Freight will never pay with engines passé.

American Locomotive Company
30 Church Street **New York N.Y.**

Construction

CINCINNATI UNION TERMINAL.—Bids were closed on April 21 for the installation of the underground drainage, air and water piping systems in the mail and express areas of this company's yards at Cincinnati, Ohio. Bids for the construction of the yard service building will be closed on May 10.

WABASH.—The United States district court at St. Louis, Mo., has authorized the receivers of this road to spend \$77,840 for the reconstruction of three trestle bridges in the vicinity of Chillicothe, Mo., the work to be done under contract with material furnished by the railroad. Bids for this work have already been received.

D. L. & W. Awards Contracts for Grade Separation Work at Elmira, N. Y.

Contracts have been awarded for work in connection with the elimination of 21 grade crossings on the line of the Delaware, Lackawanna & Western in Elmira, N. Y. The project, work on which will be commenced immediately, involves the construction of passes under the four main tracks of the Lackawanna located in Elmira at Madison avenue, Lake street, Dickinson street, East Washington avenue, East Fifth street, Oak street, East avenue, East Clinton street, Sullivan street, East Church street and John street. The grade of the D. L. & W. line alongside its Elmira passenger station will be elevated 10 feet above the present level of the station floor.

The general contract for the work, which is being undertaken at the direction of the Public Service Commission of New York, has been awarded to the Walsh Construction Company, Syracuse, N. Y.; a contract for grading and preparation of the sub-grade for the temporary tracks required has been given to E. Dalrymple & Sons, Elmira, N. Y.; another, for the construction of necessary buildings went to John Cunningham, Elmira, and a fourth, involving the construction of a temporary passenger station, was awarded to George A. Walker, Buffalo, N. Y.

The entire project will involve the handling of some 480,000 cu. yd. of earth; the use of 25,000 bbl. of cement; 14,000 cu. yd. of concrete; 500 tons of reinforcing steel and mesh; 20 tons of miscellaneous iron and steel; 4,400 lin. ft. of timber piling; 10,000 ft. of right-of-way fence; a considerable area of paving and sidewalk construction; tiling, and miscellaneous materials and labor.

CAR COOLING EQUIPMENT.—Two systems of passenger-car cooling—one using ice as the cooling medium; the other cooling by mechanical refrigeration—are described and illustrated in catalog No. 388 issued by the B. F. Sturtevant Company, Hyde Park, Boston, Mass. The ductless method of air distribution for both methods of cooling is also featured.

Financial

ABERDEEN & ROCKFISH.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue \$127,000 of first mortgage 6 per cent bonds, under a new mortgage, to be pledged as collateral for a loan from the Reconstruction Finance Corporation to pay an outstanding issue of that amount at maturity. The commission had approved the loan on condition that the bonds be extended but the corporation has suggested a new mortgage.

ALABAMA GREAT SOUTHERN.—*Annual Report.*—The 1931 annual report of this company shows net income after interest and other charges of \$293,278, as compared with net income of \$2,693,446 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated ..	315.14	315.14
RAILWAY OPERATING REVENUES	\$6,087,004	\$7,934,232	—\$1,847,228
Maintenance of way.....	1,213,061	1,274,113	— 61,052
Maintenance of equipment	1,472,513	1,707,330	— 234,817
Transportation	2,192,940	2,599,654	— 406,714
TOTAL OPERATING EXPENSES	5,375,690	6,158,724	— 783,034
Operating ratio	88.32	77.62	+ 11.70
NET REVENUE FROM OPERATIONS	711,314	1,775,508	— 64,194
Railway tax accruals ..	470,192	627,447	— 157,255
Railway operating income	355,768	1,327,268	— 971,500
Hire of Equipment ..	217,934	290,194	— 72,260
Joint facility rents	102,749	110,623	— 7,875
Non-operating income	479,689	1,894,583	— 1,414,894
GROSS INCOME	835,458	3,221,852	— 2,386,394
Rent for leased roads ..	19,540	19,650	— 110
Interest on funded debt ..	423,840	423,840
NET INCOME..	293,278	2,693,446	— 2,400,168

ALTON.—*R. F. C. Loan.*—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$2,500,000 to pay receivers' certificates, demand notes, taxes, and equipment obligations.

ANN ARBOR.—*R. F. C. Loan.*—The Interstate Commerce Commission on April 12 approved a loan of \$634,757 to the receivers from the Reconstruction Finance Corporation. The receivers applied on March 14 for a loan of \$764,657, but later reduced the amount to that approved, which is to meet a part of the wages and accounts payable, interest, and equipment obligations.

ATLANTIC COAST LINE.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to certify and deliver to its treasury \$789,817 of 4½ per cent general unified mortgage bonds.

CHESAPEAKE BEACH.—*Time Extended For Ferry Extension.*—The Interstate Commerce Commission has extended to November 1, 1932, and June 30, 1934, the time for the beginning and completion of work on the extension of this company's service by ferry across Chesapeake Bay from Chesapeake Beach to Trippe's Bay, Md.

CHICAGO & NORTH WESTERN.—*Annual Report.*—The 1931 annual report of this company shows net deficit after interest and other charges of \$6,034,125, as compared with net income of \$8,342,191 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated ..	8,457.20	8,458.52	— 1.32
RAILWAY OPERATING REVENUES	\$102,270,339	\$130,030,474	—\$27,760,135
Maintenance of way	15,997,935	19,195,308	— 3,197,373
Maintenance of equip't ..	20,584,486	24,389,363	— 3,804,877
Transport'n	41,356,049	49,853,180	— 8,497,131
TOTAL OPERATING EXPENSES	85,162,948	101,091,424	— 15,928,476
Operating ratio	83.27	77.74	+ 5.53
NET REVENUE FROM OPERATIONS	17,107,391	28,939,050	— 11,831,659
Railway tax accruals ..	7,688,012	8,462,677	— 774,665
Equipment rents, net ..	2,838,922	2,755,707	+ 83,214
Joint facility rents, net ..	281,745	266,469	+ 15,276
NET RAILWAY OPERATING INCOME	6,272,136	17,432,851	— 11,160,714
Non-operating income ..	4,358,346	7,296,570	— 2,938,224
GROSS INCOME	10,630,482	24,729,421	— 14,098,939
Interest on funded debt ..	16,178,907	16,241,372	— 62,465
NET INCOME *6,034,125	8,342,191	— 14,376,316	

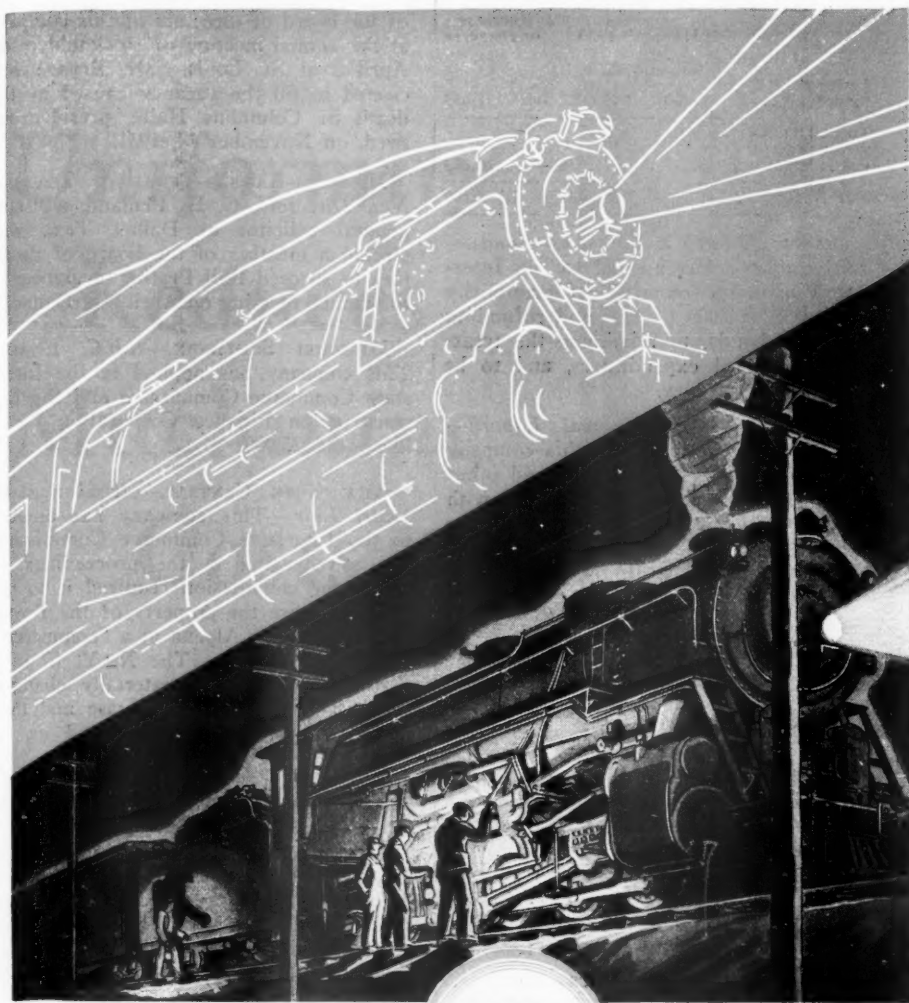
* Deficit.

CHICAGO & WESTERN INDIANA.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue \$1,000,000 of first refunding mortgage 5½ per cent bonds to be pledged as collateral for short term notes.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*R. F. C. Loan.*—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$10,996,331, less such amount as it may obtain from the Railroad Credit Corporation on an application for \$5,996,331 to meet interest requirements. The balance is to make payments on equipment trust certificates and bonds. The company has also applied to the commission for authority to assume obligation and liability in respect of \$11,212,000 of general mortgage 5 per cent bonds to be pledged as collateral for the loan.

CHICAGO, ROCK ISLAND & GULF.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue \$1,305,000 of extension first mortgage 5 per cent 30-year bonds to pay its indebtedness to the Chicago, Rock Island & Pacific.

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C E N T R A L A L L O Y D I V I S I O N

REPUBLIC STEEL CORPORATION
MASSILLON OHIO



CHICAGO, ROCK ISLAND & PACIFIC.—New Directors.—Henry R. Winthrop, of Winthrop, Mitchell & Co., and E. G. Wilmer, of Dillon Read & Co., both of New York, have been elected directors of this company, to succeed P. G. Ten Eyck and Jesse Hirschman.

CHICAGO, ROCK ISLAND & PACIFIC.—Annual Report.—The 1931 annual report of this company shows net deficit after interest and other charges of \$386,545, as compared with net income of \$7,700,229 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
RAILWAY OPERATING REVENUES	\$99,069,563	\$123,079,910	—\$24,010,346
Maintenance of way	10,987,985	15,319,813	— 4,331,828
Maintenance of equip't	17,717,462	21,224,498	— 3,507,036
Transport'n	37,553,757	45,447,900	— 7,894,143
TOTAL OPERATING EXPENSES	74,526,868	90,551,758	— 16,024,890
Operating ratio	75.23	73.57	+ 1.66
NET REVE- NUE FROM OPERATIONS	24,542,695	32,528,152	— 7,985,456
Railway tax accruals	6,530,000	7,198,000	— 668,000
Railway operat- ing income	17,988,880	25,296,878	— 7,307,998
Equipment rents, Dr.	3,871,993	4,462,122	— 590,129
Joint facility rents, Dr.	1,192,881	1,086,949	+ 105,931
NET RAILWAY OPERATING INCOME	12,924,007	19,747,807	— 6,823,800
Non-operat- ing income	1,068,318	1,375,259	— 306,941
GROSS INCOME	13,992,324	21,123,065	— 7,130,741
Rent for leased roads	155,289	155,334	— 45
NET INCOME	*386,545	7,700,229	— 8,086,774

* Deficit.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—Annual Report.—The 1931 annual report of this company shows net deficit after interest and other charges of \$2,741,441, as compared with net deficit of \$1,186,231 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated ..	1,736.94	1,740.94	— 4.00
RAILWAY OPERATING REVENUES	\$18,586,905	\$24,436,288	—\$5,849,382
Maintenance of way.....	2,787,737	3,731,981	— 944,245
Maintenance of equipment	3,523,591	4,788,218	— 1,264,627
Transport'n	8,508,648	10,362,239	— 1,853,592
TOTAL OPERATING EXPENSES ..	16,385,094	20,516,903	— 4,131,809
Operating ratio	88.15	83.96	+ 4.19
NET REVE- NUE FROM OPERATIONS	2,201,811	3,919,384	— 1,717,573
Railway tax accruals	1,274,195	1,147,613	— 126,581
Equipment rents, net....	524,022	569,918	— 45,896
Joint facility rents, net....	403,309	410,973	— 7,664
NET RAILWAY OPERATING INCOME	123,972	1,659,994	— 1,536,022
Non-operating income	131,165	166,730	— 35,566
GROSS INCOME	255,136	1,826,724	— 1,571,588

	1931	1930	Increase or Decrease
Interest on funded debt.	2,641,070	2,450,037	+ 191,033
TOTAL DEDUC- TIONS FROM GROSS INCOME	2,996,577	3,012,955	— 16,378
NET DEFICIT	2,741,441	1,186,231	— 1,555,209

DETROIT, TOLEDO & Ironton.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$2,000,000 of first and refunding mortgage bonds, to reimburse the treasury for capital expenditures, and to be held in the treasury.

ILLINOIS CENTRAL.—Annual Report.—The 1931 annual report of this company shows net deficit after interest and other charges of \$3,582,112, as compared with net income of \$9,289,590 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated	6,689.51	6,711.08	— 21.57
RAILWAY OPERATING REVENUES	\$116,788,194	\$148,455,905	—\$31,667,711
Maintenance of way	14,412,667	17,013,644	— 2,600,977
Maintenance of equip't	24,508,362	30,858,546	— 6,350,184
Transport'n	46,731,855	56,210,800	— 9,478,945
TOTAL OPERATING EXPENSES	94,797,654	113,813,197	— 19,015,543
Operating ratio	81.17	76.66	+ 4.51
NET REVE- NUE FROM OPERATIONS	21,990,540	34,642,707	— 12,652,167
Railway tax accruals	7,482,148	9,141,528	— 1,659,380
Railway operat- ing income	14,453,261	25,457,256	— 11,003,995
Equipment rents, net Dr.	2,733,224	2,347,432	+ 385,793
Joint facility rents, net Cr.	127,382	486,697	— 359,315
NET RAILWAY OPERATING INCOME	11,847,418	23,596,521	— 11,749,103
Non-operat- ing income	2,597,308	3,849,211	— 1,251,903
GROSS INCOME	14,444,726	27,445,732	— 13,001,006
Rent for leased roads	1,716,305	1,719,509	— 3,204
Interest on funded debt	15,765,329	15,808,726	— 43,397
TOTAL DEDUC- TIONS FROM GROSS INCOME	18,026,838	18,156,142	— 129,304
NET INCOME	*3,582,112	9,289,590	— 12,871,702

* Deficit.

LOUISVILLE & NASHVILLE.—New Directors.—R. L. Redmond, a member of the New York law firm of Carter, Ledyard & Milburn, was elected a member of the board of directors of this company to fill the vacancy caused by the death of Henry Walters, at the annual meeting of stockholders at Louisville, Ky., on April 6.

MARYLAND & PENNSYLVANIA.—R.F.C. Loan.—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$150,000 to pay off an issue of bonds.

MISSOURI-KANSAS-TEXAS.—New Directors.—Joseph M. Bryson, general counsel, at St. Louis, Mo., was elected a member

of the board of directors of this company at the annual meeting of stockholders on April 8 at St. Louis. Mr. Bryson was elected to fill the vacancy caused by the death of Columbus Haile, president-retired, on November 14, 1931.

MISSOURI-KANSAS-TEXAS OF TEXAS.—New Director.—G. H. Penland, assistant general solicitor at Dallas, Tex., was elected a member of the board of directors to succeed Phil Prather, resigned, at the annual meeting on April 6 at Dallas.

MISSOURI SOUTHERN.—R.F.C. Loan.—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$125,000.

NEW YORK CENTRAL.—Acquisition of Short Line.—This company has applied to the Interstate Commerce Commission for a rehearing in the proceedings in which the commission required it to offer to acquire the property of the Boyne City, Gaylord & Alpena at a "commercial value" of \$230,000. The N. Y. C. says that conditions have materially changed since the hearings in this case and that operations have been abandoned on 75 per cent of the line.

NEW YORK, NEW HAVEN & HARTFORD.—Supreme Court to Review Valuation Case.—The Supreme Court of the United States on April 18 granted a petition of the Interstate Commerce Commission for a review of the decision of the court of appeals of the District of Columbia which held, on a petition for a writ of mandamus, that the commission should have included in its valuation of the New Haven properties amounts representing the value of its rights in the Grand Central Terminal and South Station properties at New York and Boston. The lower court had held that the value to be found by the commission is not limited to a value for rate-making purposes. Counsel for the commission told the court that this decision, if not reversed, would require a revaluation in approximately a thousand cases decided by the commission on the basis of a value for rate-making purposes.

ST. LOUIS SOUTHWESTERN.—Acquisition by Southern Pacific.—Simultaneously with the announcement on April 14 by the Southern Pacific that it had formally notified the Interstate Commerce Commission of its acceptance of the order to acquire the St. Louis Southwestern, the Missouri Pacific and the Texas & Pacific entered suit to nullify the acquisition. The suits were filed at Frankfort, Ky., seeking a temporary injunction to prevent the acquisition and asked the court to void all the Southern Pacific's purchase of St. Louis Southwestern stock made in conformity with the commission's order. The plaintiff roads want the Southern Pacific to divest its stock control of the Cotton Belt permanently. Under the terms of the acquisition of the Cotton Belt, the Southern Pacific stipulated that it would guarantee, as requested by the commission, the \$18,000,00 loan to the St. Louis Southwestern from the Reconstruc-

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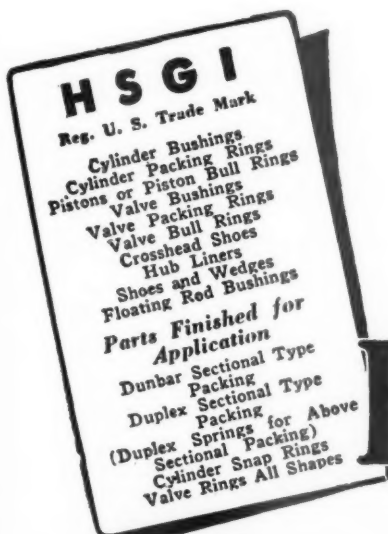


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tion Finance Corporation. The Southern Pacific also announced that it had accepted the deposits of capital stock of the Cotton Belt holders in accordance with the plan, under which it requested at least 85 per cent of the stock to make the fusion binding, even though but 80 per cent of the required stock has been deposited to date.

Bond Maturity.—In a letter to holders of this company 4 per cent consolidated mortgage bonds which matures June 1, President Upthegrove has outlined the plan for meeting the maturity of this issue and that of \$9,000,000 of promissory notes, i.e., by payment of half in cash (to be advanced by the Reconstruction Finance Corporation) and the remainder by bank loans and the exchange of its general and refunding mortgage 5 per cent bonds. He urged deposit of the maturing bonds under this plan.

SOUTHERN.—I.C.C. To Hear Argument in Clayton Act Case.—The Interstate Commerce Commission has assigned for argument on May 25 a motion to dismiss the complaint which it filed against this company alleging violation of the Clayton law in its acquisition of control of the Mobile & Ohio.

SOUTHERN.—Annual Report.—The 1931 annual report of this company shows net deficit after interest and other charges of \$5,922,842, as compared with net income of \$9,126,513 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated	6,730.48	6,731.02	— .54
RAILWAY OPERATING REVENUES	\$97,715,112	\$118,868,608	— \$21,153,496
Maintenance of way	15,028,650	17,089,087	— 2,060,437
Maintenance of equip't	20,429,088	22,283,261	— 1,854,173
Transport'n	37,168,431	41,880,049	— 4,711,618
TOTAL OPERATING EXPENSES	79,783,959	89,162,916	— 9,378,957
Operating ratio	81.65	75.01	+ 6.64
NET REVENUE FROM OPERATIONS	17,931,152	29,705,692	— 11,774,540
Railway tax accruals	7,311,318	8,383,821	— 1,072,503
Railway operating income	8,281,106	19,708,163	— 11,427,057
Hire of equipment	1,260,785	624,311	+ 636,474
Joint facility rents	1,057,603	977,879	+ 79,724
Non-operating income	3,247,789	7,236,159	— 3,988,370
GROSS INCOME	11,528,896	26,944,322	— 15,415,426
Rent for leased roads	2,517,220	2,601,920	— 84,700
Interest on funded debt	12,728,630	12,728,630	—
TOTAL DEDUCTIONS FROM GROSS INCOME	17,451,738	17,817,809	— 366,071
NET DEFICIT	5,922,842	\$9,126,513	— 15,049,355

* Income.

VIRGINIAN.—Tentative Recapture Report.—The Interstate Commerce Commission has issued a tentative recapture report finding that this company in the

years 1920 to 1927 earned \$9,650,483 in excess of 6 per cent on its value, accompanied by an order directing it to pay half the amount by May 31 unless a protest is filed. The final value was placed at \$81,000,000 for 1920 and \$104,025,000 for 1927, whereas the company had claimed a valuation of \$115,824,370 for 1920 and \$160,844,048 for 1927.

WABASH.—Annual Report.—The 1931 annual report of this company shows net deficit after interest and other charges of \$7,050,746, as compared with net income of \$3,781,755 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated	2,523.83	2,523.83	—
RAILWAY OPERATING REVENUES	\$49,163,326	\$61,970,752	— \$12,807,426
Maintenance of way	5,421,979	7,621,983	— 2,200,004
Maintenance of equipment	9,052,868	10,317,394	— 1,264,525
Transport'n	22,197,142	24,311,522	— 2,114,379
TOTAL OPERATING EXPENSES	42,024,255	47,249,762	— 5,225,507
Operating ratio	85.48	76.25	+ 9.23
NET REVENUE FROM OPERATIONS	7,139,071	14,720,990	— 7,581,919
Railway tax accruals	2,631,176	2,626,506	+ 4,670
Railway operating income	4,485,520	12,080,198	— 7,594,678
Hire of freight cars, Dr.	3,123,274	2,791,860	+ 331,414
Joint facility rents	1,701,751	1,548,770	+ 152,981
NET RAILWAY OPERATING INCOME	366,995	7,711,675	— 8,078,670
Non-operating income	971,060	3,384,146	— 2,413,086
GROSS INCOME	604,065	11,095,821	— 10,491,756
Rent for leased roads	356,903	359,568	— 2,666
Interest on funded debt	6,787,348	6,643,264	+ 144,084
TOTAL DEDUCTIONS FROM GROSS INCOME	7,654,811	7,314,066	+ 340,745
NET INCOME	*7,050,746	3,781,755	— 10,832,501

* Deficit.

WHITE RIVER.—R. F. C. Loan.—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of \$25,000.

WISCONSIN CENTRAL.—Notes.—This company has applied to the Interstate Commerce Commission for authority to guarantee \$696,660 of promissory notes of the Minneapolis, St. Paul & Sault Ste. Marie to the Railroad Credit Corporation covering a loan to meet interest requirements of the Wisconsin Central.

Average Prices of Stocks and of Bonds

	Apr. 19	Last week	Last year
Average price of 20 representative railway stocks..	19.41	18.57	75.84
Average price of 20 representative railway bonds..	60.88	58.84	91.58

Dividends Declared

Virginian.—Preferred, \$1.50, quarterly, payable May 2 to holders of record April 16.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

Joseph Goldbaum has been appointed auditor of the Ann Arbor, succeeding J. F. Cress, resigned, and F. Kiefaber has been appointed local treasurer, succeeding Mr. Goldbaum. Both will have headquarters at Toledo, Ohio.

OPERATING

P. L. Grove, assistant to general manager of the Central region of the Pennsylvania, with headquarters at Pittsburgh, Pa., has been transferred to the Western region, with headquarters at Chicago, succeeding W. M. Wardrop, assistant to vice-president, appointed assistant to general manager at Pittsburgh, to succeed Mr. Grove.

R. W. Berry, Jr., agent for the Wabash at Kansas City, Mo., has been appointed also superintendent of the Kansas City Terminal division, succeeding E. Lind, who has been transferred to the Chicago Terminal division. Mr. Lind replaces E. Haney, who has been transferred to the Decatur division, at Decatur, Ill., where he succeeds A. F. Helm, who has been granted a leave of absence because of ill health.

TRAFFIC

J. P. Leingang has been appointed district freight agent of the Baltimore & Ohio, with headquarters at Cleveland, Ohio, succeeding F. O. Dutcher, promoted.

J. E. Hughes, superintendent on the Pittsburgh & Lake Erie, at Pittsburgh, Pa., has been appointed to the newly-created position of general agent, operating and traffic departments, at Youngstown, Ohio.

H. A. Williams has been appointed assistant general freight agent of the Baltimore & Ohio, with headquarters at Baltimore, Md., succeeding C. M. Gosnell, promoted. F. H. Fowler has been appointed division freight agent at Cumberland, Md., succeeding Mr. Williams.

T. D. Dellmin, superintendent of the Lake Erie & Eastern (a unit of the New York Central System), at Struthers, Ohio, has been appointed to the newly-created position of general agent, operating and traffic departments, on the New York Central, with headquarters at Youngstown, Ohio.

Lee H. Landis, Pacific coast general agent of the Louisiana & Arkansas, and the Louisiana, Arkansas & Texas, has been placed in charge of the office recently opened by these two companies at San Francisco, Cal. L. B. Kelz has been appointed general eastern agent at New York, and his former position, general agent, has been abolished.

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On Your New Trucks **GOODYEAR** Specify Goodyears

MORE TONS ARE HAULED ON GOODYEAR TIRES THAN ON ANY OTHER KIND

Orrie M. Meyne, assistant general freight agent on the Erie, has been promoted to general freight agent, with headquarters as before at Cleveland, Ohio, to succeed **John E. Propper**, who has retired because of ill health. **Edwin N. Hambly**, chief of the tariff bureau, at Cleveland, has been appointed assistant general freight agent at that point to succeed Mr. Meyne, while **Frederick M. Klitz**, chief of the divisions bureau, also at Cleveland, succeeds Mr. Hambly as chief of tariff bureau. **Edward J. Farrell** has been appointed to the newly-created position of assistant general freight agent at Cleveland.

ENGINEERING AND SIGNALING

Floyd J. Pitcher has been appointed engineer of structures of the New York, New Haven & Hartford, succeeding **Paul B. Spencer**, deceased.

H. L. Stanton has been appointed superintendent of telegraph and signals, Eastern region, of the Pennsylvania, succeeding **J. D. Jones**, transferred.

E. E. Chapman, engineer of tests of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., has had his jurisdiction extended over the chemical department, and **O. T. Rees**, chief chemist, has been appointed to the newly-created position of assistant engineer of tests, with headquarters as before at Topeka. The position of chief chemist has been abolished.

F. H. Cook, trainmaster on the International-Great Northern, with headquarters at San Antonio, Tex., has been appointed division engineer at Palestine, Tex., with jurisdiction over the San Antonio and Palestine divisions. **W. Fields**, division engineer of the San Antonio division, at San Antonio, has been appointed office engineer in the chief engineer's office at Houston, Tex., and **S. Beacon**, division engineer of the Palestine division, at Palestine, has been assigned to other duties.

As reported in the *Railway Age* of April 9, page 625, **W. H. Kirkbride**, engineer maintenance of way and structures, Southern Pacific, Pacific Lines, has been promoted to chief engineer, to succeed **George W. Boschke**, deceased. **W. M. Jaekle**, assistant engineer maintenance of way and structures, has been advanced to engineer maintenance of way and structures, succeeding Mr. Kirkbride. Both men will have headquarters as before, at San Francisco, Cal.

Mr. Kirkbride has been engaged in various capacities in railway location, construction, maintenance, and operation for 34 years. He was born on January 22, 1874, at Pueblo, Colo., and graduated from Leland Stanford University with a degree in civil engineering in 1895. He began his engineering career in that year as a United States deputy mineral surveyor, but three years later he took up railway work as assistant engineer on location and construction of the Sierra Railway of California. From February to August, 1902, Mr.

Kirkbride served as chief of a field party on location of the Shasta Mineral Belt Railway, and then entered the service of the Southern Pacific as an assistant engineer. Two years later he was promoted to roadmaster, then being advanced to assistant resident engineer in 1906, and to division engineer in 1909.



W. H. Kirkbride

In 1917, Mr. Kirkbride was transferred to the operating department as assistant superintendent of the Sacramento division. A year later, during federal control of the railroads, he was appointed chief engineer of the Southern Pacific, Pacific lines, and in 1920, he was appointed engineer maintenance of way and structures, which position he held until his promotion to chief engineer, effective April 1. Since late last year, Mr. Kirkbride has also been chief engineer of the Northwestern Pacific, a subsidiary of the Southern Pacific.

Mr. Jaekle's railway career embraces 28 years of experience in engineering capacities on various railroads from New York to Mexico. He was born on January 9, 1883, at Brooklyn, N. Y., and



W. M. Jaekle

received his engineering education at Cooper Institute. He first entered railway service in 1904, as a transitman on the New York division of the Erie where he remained for a year, then going with the Missouri Pacific as an assistant engineer at St. Louis, Mo. Next, Mr.

Jaekle went to Mexico where he served until 1907 as a transitman and chief of party on railroad location and construction with the National Railways of Mexico. In that year he joined the Southern Pacific as an assistant engineer at Sacramento, Cal., being promoted to assistant division engineer at the same point two years later. In 1910, Mr. Jaekle was sent to Portland, Ore., as a division engineer on the Oregon-Washington Railroad & Navigation company, which at that time, as a Harriman line, was affiliated with the Southern Pacific. He returned to the latter company in 1913 as a division engineer at Bakersfield, Cal., and was transferred to Los Angeles four years later. During federal control of the railroads, Mr. Jaekle held the position of engineer of maintenance for the lines south of Portland and west of Ogden, Utah, and El Paso, Tex., and in 1920 he was appointed assistant engineer maintenance of way and structures, which position he held until his recent promotion, effective April 1.

MECHANICAL

J. J. Prendergast, assistant master mechanic of the Fort Worth division of the Texas & Pacific, with headquarters at Fort Worth, Tex., has been promoted to master mechanic of that division.

PURCHASES AND STORES

U. K. Hall, general supervisor of stores of the Union Pacific System, has been appointed to the newly-created position of general storekeeper for the system, with headquarters as before at Omaha, Neb. **O. Nelson**, general storekeeper of the Union Pacific Railroad, at Omaha, has been appointed to the newly-created position of assistant general storekeeper of the system, with jurisdiction over the Union Pacific unit. Mr. Nelson's headquarters will remain at Omaha. **J. L. Irish**, general storekeeper of the Oregon Short Line, the Oregon-Washington Railroad & Navigation Co., and the Los Angeles & Salt Lake (all units of the U. P. System), has been appointed to the newly-created position of assistant general storekeeper of the system, with jurisdiction over the above-mentioned units and with headquarters as before at Pocatello, Idaho. The positions of general supervisor of stores of the system, general storekeeper of the Union Pacific Railroad and general storekeeper of the O. S. L., the O.-W. R. R. & N. and the L. A. & S. L. have been abolished.

OBITUARY

E. T. Wilcox, assistant freight traffic manager of the Seaboard Air Line, died at Birmingham, Ala., on April 10.

C. H. Holmes, chief engineer of the Alaska Railroad, with headquarters at Anchorage, Alaska, died on April 9.

L. W. Hagerman, former general attorney for the Missouri-Kansas-Texas, died at his home at St. Louis, Mo., on April 3, after an illness of several months.